4/09/2019 M/HM	YPE: APP NO: PMAM 19129 41387
	ONSERVATION DIVISION
- Geological & Eng	// <b>**</b>
1220 South St. Francis Driv	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	PPLICATION CHECKLIST  ATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND
	SSING AT THE DIVISION LEVEL IN SANTA FE
Applicant: Hilcorp Energy Company	OGRID Number:
Well Name: Mitchell 1E	API: 30-045-23645
Pool: Basin Fruitland Coal / Blanco Mesaverde	Pool Code: 71629 / 72319
	ON REQUIRED TO PROCESS THE TYPE OF APPLICATION
1) TYPE OF APPLICATION: Check those which app	ply for [A]
A. Location – Spacing Unit – Simultaneous D	
NSL NSP (PROJECT AREA)	□NSP(PRORATION UNIT) □SD
B. Check one only for [1] or [11]	
[1] Commingling – Storage – Measureme	ent Cour Cour
■ DHC □CTB □PLC □PG [11] Injection – Disposal – Pressure Increase	
WFX □PMX □SWD □IP	<u> </u>
	FOR OCD ONLY
2) NOTIFICATION REQUIRED TO: Check those which	ch apply. Notice Complete
A. Offset operators or lease holders	
<ul><li>B.  Royalty, overriding royalty owners, rev</li><li>C.  Application requires published notice</li></ul>	Application
<ul><li>C. Application requires published notice</li><li>D. Notification and/or concurrent approx</li></ul>	val by SLO
E. Notification and/or concurrent approv	
F. Surface owner	·
G. For all of the above, proof of notificati	ion or publication is attached, and/or,
H. No notice required	
3) <b>CERTIFICATION</b> : I hereby certify that the inform	pation submitted with this application for
administrative approval is accurate and comp	, ,
	s application until the required information and
notifications are submitted to the Division.	
Note: Stalement must be completed by an ind	ilvidual with managerial and/or supervisory capacity.
	5/9/2019
Thomas Jacques	Date
Print or Type Name	
1 1	832.839.4582
0/ ///	Phone Number
Marmold of In	tineques@hilearm.com
Signature	tjacques@hilcorp.com e-mail Address

Production Summary Report  API: 30-045-23645  MITCHELL #001E										
9/1/2018	[71629] BASIN FRUITLAND COAL (GAS)	921	О	30						
10/1/2018	[71629] BASIN FRUITLAND COAL (GAS)	1081	0	31						
11/1/2018	[71629] BASIN FRUITLAND COAL (GAS)	926	0	30						
12/1/2018	[71629] BASIN FRUITLAND COAL (GAS)	616	0	31						
1/1/2019	[71629] BASIN FRUITLAND COAL (GAS)	525	0	31						
2/1/2019	[71629] BASIN FRUITLAND COAL (GAS)	58	0	28						
Cum	_	900326	18771							



May 9, 2019

New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, NM 87505 Attn: Michael McMillan

Re:

C-107-A (Downhole Commingle)

Mitchell 001E API: 30-045-23645

T31N-R12W-Section 5, Unit Letter: F

San Juan County, NM

Mr. McMillan:

Concerning Hilcorp Energy Company's C-107-A application to downhole commingle production in the subject well, this letter serves to confirm the following:

• That notification to the BLM office has been sent via a hand delivered copy of the packet.

If you have any questions or concerns regarding this matter, please do not hesitate to contact me at the email or number provided below.

Regards,

Hilcorp Energy Company

Amanda Walker

Operations/Regulatory Tech Sr.

(505)324.5122

mwalker@hilcorp.com



May 9, 2019

New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, NM 87505 Attn: Michael McMillan

Re:

C-107-A (Downhole Commingle)

Mitchell 001E API: 30-045-23645

T31N-R12W-Section 5, Unit Letter: F

San Juan County, NM

Mr. McMillan:

Concerning Hilcorp Energy Company's C-107-A application to downhole commingle production in the subject well, this letter serves to confirm the following:

- All working, royalty and overriding royalty interests are identical between the Basin Fruitland Coal (71629) and Blanco Mesaverde (72319) in the spacing unit dedicated to these formations; being the W/2 of Township 31 North, Range 12 West, Section 5. Therefore, no notice to interest owners is required.
- The spacing unit is partially comprised of a federal lease. Therefore, pursuant to Subsection C.(1) of 19.15.12.11 NMAC, a copy of the C-107-A has been sent to the BLM as of the date of this letter.

If you have any questions or concerns regarding this matter, please do not hesitate to contact me at the email or number provided below.

Regards,

Hilcorp Energy Company

Robert T. Carlson

Landman

(832) 839-4596

rcarlson@hilcorp.com

<u>District I</u> 1625 N. French Drive, Hobbs, NM 88240

District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy, Minerals and Natural Resources Department

Oil Conservation Division

Form C-107A Revised August 1, 2011

APPLICATION TYPE

1220 South St. Francis Dr.	_XSingle Well
Santa Fe, New Mexico 87505	Establish Pre-Approved Poo
	EXISTING WELLBORE
APPLICATION FOR DOWNHOLE COMMINGLING	YesNo

Hilcorp Energy Company Operator	382 Road 3100, Aa Add	ztec, NM 87410 Iress							
Mitchell 1E	F 05, 31N, 1		San Juan						
OGRID No. <u>372171</u> Property Code		Section-Township-Range  Lease Type: X Fe	County  deralStateFee						
DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE						
Pool Name	Basin Fruitland Coal		Blanco Mesaverde						
Pool Code	71629		72319						
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	2100'-2336'		3997'-5127'						
Method of Production (Flowing or Artificial Lift)	Artificial Lift		New Zone						
Bottomhole Pressure (Note: Pressure data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)		800 psi							
Oil Gravity or Gas BTU (Degree API or Gas BTU)	1000 BTU								
Producing, Shut-In or New Zone	Des division								
Date and Oil/Gas/Water Rates of Last Production. (Note: For new zones with no production history, applicant shall be required to attach production	Last Production. Note: For new zones with no production history, ophicant shall be required to attach production								
estimates and supporting data.)	Rates: 0 BOPD, 17 MCFPD, 0 BWPD	Rates:	Rates:						
Fixed Allocation Percentage (Note: If allocation is based upon something other	Oil Gas	Oil Gas	Oil Gas						
than current or pest production, supporting data or explanation will be required.)	Will be supplied upon completion	% %	Will be supplied upon completion						
	ADDITION	NAL DATA							
Are all working, royalty and overriding If not, have all working, royalty and over			Yes X No No No						
Are all produced fluids from all commit	ngled zones compatible with each o	other?	YesX No						
Will commingling decrease the value of	f production?		Yes NoX_						
If this well is on, or communitized with or the United States Bureau of Land Ma			Yes No_X						
NMOCD Reference Case No. applicabl	e to this well:								
Attachments:  C-102 for each zone to be comming Production curve for each zone for For zones with no production histor Data to support allocation method of Notification list of working, royalty Any additional statements, data or of the statements of the statements.	at least one year. (If not available, y, estimated production rates and s or formula.  and overriding royalty interests for	attach explanation.) upporting data. r uncommon interest cases.							
	PRE-APPRO	VED POOLS							
If application is	to establish Pre-Approved Pools, th	ne following additional information wi	ll be required:						
List of other orders approving downhol List of all operators within the proposed Proof that all operators within the propo Bottomhole pressure data.	Pre-Approved Pools								
I hereby certify that the information	above is true and complete to t	he best of my knowledge and belie	ef.						
SIGNATURE MUNICIPALITY	e title of	perations/Regulatory Technician	DATE <u>5/9/2019</u>						
TYPE OR PRINT NAME Amanda	Walker	TELEPHONE NO. (505) 3	324.5122						

5/6/2019 OCD Permitting

District I

1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 **District II** 

811 S. First St., Artesia, NM 88210

Phone:(575) 748-1283 Fax:(575) 748-9720 <u>District III</u>
1000 Rio Brazos Rd., Aztec, NM 87410

Phone:(505) 334-6178 Fax:(505) 334-6170 **District IV** 

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3470 Fax: (505) 476-3462 State of New Mexico
Energy, Minerals and Natural
Resources
Oil Conservation Division

August 1, 2011 Permit 267013

Form C-102

Oil Conservation Division 1220 S. St Francis Dr. Santa Fe, NM 87505

## WELL LOCATION AND ACREAGE DEDICATION PLAT

1. API Number 30-045-23645	2. Pool Code 72319	3. Pool Name BLANCO-MESAVERDE (PRORATED GAS)
4. Property Code 319376	5. Property Name MITCHELL	6. Well No. 001E
7. OGRID No. 372171	8. Operator Name HILCORP ENERGY COMPANY	9. Elevation 5966

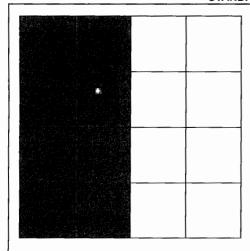
#### 10. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County	
F	5	31N	12W		1758	N	1850	W		SAN JUAN

#### 11. Bottom Hole Location If Different From Surface

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
12. Dedicated A 318			13. Joint or Infill		14. Consolidation Code			15. Order No.	

## NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



### **OPERATOR CERTIFICATION**

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location(s) or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

## E-Signed By: Amanda Walker

Title: Operations/Regulatory Tech Sr.

Date: 5/7/2019

## SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Surveyed By: James P. Leese
Date of Survey: 5/13/1979
Certificate Number: 1463

District I PO Box 1980, Hobbs, NM 88241-1980 District II PO Drawer DD, Artesia, NM 88211-0719 District III 1000 Rio Brazos Rd., Aztec, NM 87410 District IV PO Box 2088, Santa Fe. NM 87504-2088

API Number

30-045-23645

## State of New Mexico Energy, Minerals & Natural Resources Department

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 Pool Code

71629/71599

Form C-102 Revised February 21, 1994

Instructions on back

OIL CONSERVATION DIVISION ? Pil Subma to Appropriate District Office PO Box 2088
Santa Fe, NM 87504-2088

State Lease - 4 Copies

Fee Lease - 3 Copies

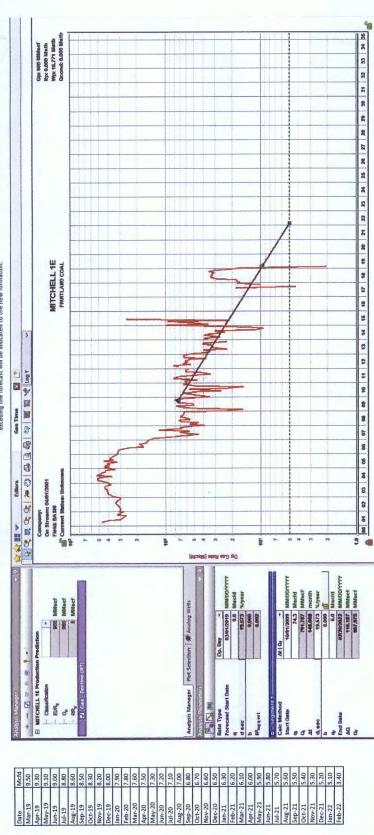
■ AMENDED REPORT

Basin Fruitland Coal/Basin Dakota

' Property (	Code				' Property	Name			• •	Veli Number
	ĺ		Mite	chell					1 E	
'OGRID	No.				' Operator	Name				* Elevation
14538		I	Burlin	gton I	Resources	Oil & Gas	Company		596	66' GR
					10 Surface	Location				
UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West	line	County
F	5	31N	12W		1758	North	1850	West		San Juan
			11 Bot	tom Hol	e Location I	f Different Fro	om Surface			·
UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West	line	County
" Dedicated Act	real " Inint	or Infall 14	Consolidatio	n Cade 1 15 (	order No.	<u> </u>				
W/318.36										
NO ALLO	WABLE					ON UNTIL ALL EEN APPROVED			EN CO	NSOLIDATED
T				-1		EEN ATTROVEL			CED	TIFICATION
1							13			CONTINUE CONTINUE IN CONTINUE
1		ν,	•	Ori	ginal plat	from				browledge and belief
		7	)		es P. Lees		1			
				- 11						
				1				/		
		1		-			Signature	44 (	al	
1			_					y Cole		
18.	50'—	@	)	1			Printed Na			icor
<b>!</b>		į		il			Title			
<b>I</b> i		Ì		il	المراجع	Section 18th		12-1	1-00	2
<b>₽</b>   <b>₽</b>				5			Date			
1						· ·	18SUR	VEYOR	CER	TIFICATION
				1		:				on shown on this plat
Ni.				il						ual surveys mode by me the same is true and
							correct to t	he best of my	belief.	
							Date of Su	гчеу		
1				+		<del>                                     </del>	Signature s	and Seal of Pr	ofessiona	Su <del>rveyer.</del>
li										
11				1						
N i				il						
							Certificate	Number		
H						1	II CETOTICALE			

Subtraction Allocation Forecast - Mitchell 1E

Base formation is the Fruitland Coal and the added formation to be commingled is the MesaVerde. The subtraction method applies an average monthly production forecast to the base formation using historic production. All production from this well exceeding the forecast will be allocated to the new formation.



Fruit Land Coal		Γ						Γ —		r - r
Lease Name	Well Number	API	Operator Name	Year	Month	Liquid	Gas	Water	Wells	Days On
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2001	-	10.90.0	13972	0		<u> </u>
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2001			12249	0		
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2001	JUN		7181	320	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2001	JUL		8796	800	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2001	AUG		8588	360	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2001	SEP		7828	0	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2001	ОСТ		9953	0	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2001	NOV		9076	640	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2001	DEC		8702	480	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY				9428	520	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2002			8382	320	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	_	MAR		9180	240	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2002			9108	80	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	-	MAY		9724	480	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2002			9306	400	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2002			10345	400	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2002			10354	240	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2002			9616	280	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2002		$\vdash$	9875	200	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY				8862	480	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	_	DEC	<u> </u>	9195	160	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2003		<u> </u>	11188	320	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY HILCORP ENERGY COMPANY	2003	MAR		10411 12133	160 80		
MITCHELL	1E 1E	30045236450001	HILCORP ENERGY COMPANY	2003		-	12297	240	1	
	1E	30045236450001 30045236450001	HILCORP ENERGY COMPANY	2003		<del></del>	12369	240	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2003			12536	80	1	-
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2003			12695	200	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2003			13526	80	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2003			13118	160	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2003			13156	200	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2003			11259	200	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2003	DEC	<del> </del>	12187	40	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2004			12575	160	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2004			13505	80	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2004	MAR		16022	160	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2004	APR		15503	300	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2004	MAY		15601	300	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2004	JUN		10988	160	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2004	JUL		16321	160	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2004			14898	80	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2004	SEP		14037	340	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2004			13389			
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2004			12712	160		
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2004			10539	_	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2005			13663	120		
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2005		<u> </u>	10949	80		
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	_	MAR		13495	40	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2005		<del></del>	11611 12744	320 160	1	
MITCHELL	1E 1E	30045236450001 30045236450001	HILCORP ENERGY COMPANY HILCORP ENERGY COMPANY	2005			9668	80	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2005		<u> </u>	13724	0		
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2005			10953	0		31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2005			11593	0		
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2005			11349	0		
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2005	_		10569	250	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2005			10257	.230	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2006			9841	0	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2006			8903	0		
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY		MAR		9693	0		
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2006			9376	0		
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY		MAY		9059	0		
INTERCET	1E	30045236450001	HILCORP ENERGY COMPANY	-	JUN	$\vdash$	7225	0		

MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2006	Tun T	5275	0	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY		AUG	5462	0		31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2006		5643	0		30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2006		4905	0		31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	_	NOV	4688	0		30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2006		4691	31	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2007		4478	31	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2007		3764	28	1	28
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY		MAR	2713	31	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2007		2084	30	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2007		1397	31	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2007		1688	30	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2007		2181	31	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2007		1755	31	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2007		3524	30	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2007		2113	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	_	NOV	2128	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2007		1633	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2008		1212	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2008		1609	77	1	29
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY		MAR	1398	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2008		2044	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY		MAY	2243	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2008		1655	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2008		1911	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	_	AUG	2176	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2008		2046	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2008		1986	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2008		1953	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2008		1946	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2009		705	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2009		432	75	1	28
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY		MAR	1450	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2009		1979	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY		MAY	2389	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2009		1500	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2009		1606	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2009		2289	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2009		2132	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2009		2507	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY		NOV	2258	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2009		1530	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2010		1074	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2010		1332	75	1	28
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY		MAR	1654	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2010		1978	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY		MAY	1452	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2010		781	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2010		1760	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2010		687	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2010		459	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2010	ОСТ	1496	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2010	NOV	1954	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2010	DEC	1867	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2011	JAN	1853	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2011	FEB	1770	75	1	28
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY		MAR	1436	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2011	APR	2472	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2011		2439	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2011		2076	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2011		1438	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2011		1041	83	1	31
							80		30
IMITCHELL	11E	130045236450000	IMILCORP ENERGY CONTRAINS	LZULL	ISEP I	1 1/531	AUI	, , ,	
MITCHELL	1E 1E	30045236450001 30045236450001	HILCORP ENERGY COMPANY HILCORP ENERGY COMPANY	2011		1253 1900	83	1	31

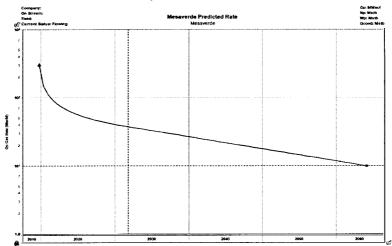
	T:	1						<del>,</del>	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2011		1781	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2012		0	0	0	0
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2012	<del></del>	1164	43	1	16
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2012	MAR	2552	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2012	APR	1642	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2012	MAY	2032	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2012	JUN	1754	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2012	JUL	1934	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2012	AUG	1735	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2012	SEP	1132	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2012	ОСТ	1956	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2012	NOV	1951	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2012	<del></del>	1915	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2013		1110	59	1	22
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2013		464	35	1	13
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY		MAR	1061	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2013		1196	80	1	30
MITCHELL	1E	+							
	+	30045236450001	HILCORP ENERGY COMPANY	2013	-	705	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2013		947	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2013		996	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2013	<del></del>	1025	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2013		1212	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2013	ОСТ	1226	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2013	NOV	572	67	1	25
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2013	DEC				
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2014	JAN	1013	75	1	28
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2014	FEB	938	64	1	24
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2014	MAR	780	77	1	29
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2014	APR	886	69	1	26
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2014	MAY	888	61	1	23
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2014		586	53	1	20
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2014		192	21	1	8
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2014		867	77	1	29
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2014	<b></b>	338	80	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2014		290	83	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2014		296	64	1	24
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2014		474	51	1	19
MITCHELL	1E	1	HILCORP ENERGY COMPANY	2014					
MITCHELL	15	30045236450001 30045236450001	HILCORP ENERGY COMPANY			578	16	1	6
MITCHELL	1E			2015		356	27	1	10
		30045236450001	HILCORP ENERGY COMPANY			406	19	1	7
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2015		662	19	1	. 7
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2015		194	24	1	9
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2015		507	5	1	2
MITCHELL	1E		HILCORP ENERGY COMPANY	2015			0	0	
MITCHELL	1E	<del></del>	HILCORP ENERGY COMPANY	2015			0	0	
MITCHELL	1E	ì	HILCORP ENERGY COMPANY	2015			0	0	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2015			3	1	
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2017		0		0	0
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2017	FEB	0		0	0
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2017	MAR	0		0	0
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2017	APR	0		0	0
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2017	MAY	0		0	0
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2017	JUN	0		0	0
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2017	JUL	0		0	0
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2017	AUG	18		1	1
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2017		126		1	29
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2017		0		ō	0
MITCHELL	1E		HILCORP ENERGY COMPANY	2017		305		1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2017		541		1	31
MITCHELL	1E		HILCORP ENERGY COMPANY	2017		515		1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2018		499	<del></del> -	1	28
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2018		555			
	1E							1	31
MITCHELL	1	30045236450001	HILCORP ENERGY COMPANY	2018		873		1	30
MITCHELL MITCHELL	1E		HILCORP ENERGY COMPANY	2018		1029		1	31
	11E	30045236450001	HILCORP ENERGY COMPANY	2018	I NIDE	995	· · · · · · · · · · · · · · · · · · ·	1	30

MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2018 JUL	-	993	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2018 AU	G	1008	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2018 SEP	·	921	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2018 OC	Т	1081	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2018 NO	V	926	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2018 DE0	c	616	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2019 JAN	7	525	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2019 FEB	3	58	1	28

### Subtraction Allocation Forecast - Mitchell 1E

Base formation is the Fruitland Coal and the added formation to be commingled is the MetaVorde. The subtraction method applies an average monthly production forecast to the base formation using historic production. All production from this well exceeding the forecast will be allocated to the new formation.

Date	Mcfd
Oct-19 Nov-19	272.40 233.30
Dec-19 Jan-20	207.30
Feb-20	174.00
Mar-20	162.60
Apr-20 Maγ-20	145.00
Apr-20 May-20 Jun-20	
Aug-20	132.10 126.70
Sep-20	122.00
Oct-20 Nov-20	117.80 114.00
Dec-20	110.60
Jan-21 Feb-21	107.40 104.60
Mar-21	
Mar-21 Apr-21 May-21	99.50 97.20 95.00
May-21 Jun-21 Jul-21	95.00
	93.00 91.10
Sep-21	89.30 87.60
Sep-21 Oct-21 Nov-21	87.60 86.00
Dec-21	84 50
Jan-22	83.00 81.70
	80.50 79.20
Mar-22 Apr-22 May-22	79.20 78.00
May-22 Jun-22	76 90
Jul-22	75.80
Aug-22 Sep-22	74.80
Oct-22	72.80
Nov-22 Dec-22	
Jan 23	70.10
	69.30 68.60
Mar-23 Apr-23 May-23	67.80
May-23 Jun-23	66.30
Jul-23	65.60
Aug-23 Seo-23	64.90 64.30
	63.60
Nov-23 Dec-23	63.00
	61.80
Jan-24 Feb-24 Mar-24	61.30 60,70
	60.20
May-24	59.70 59.20
Jul-24	
	58.20 57.70
Sep-24 Oct-24	57.20
Nov-24	56.80
Jan- 25	56.30 55.90 55.50
Feb-25	\$5.50
Mar-25 Apr-25 May-25 Jun-25	\$5.10 54.70
May 25	54.30
Jul-25	53.90 53.50
Jul-25 Aug-25	53.20
Sep-25 Oct-25	52.80 52.40
Nov-25	52.40 52.10
Dec-25 Jan-26	51.70 51.40
Feb-26	51.10
Mar 26 Apr-26	50.80
May-26	50.20
May-26 Jun-26 Jul-26 Aug-26	49.90 49.60
Jul-26 Aug-26	49.30
Sep-26 Oct-26	ag no
Nov-26	48.40
Nov-26 Dec-26 Jan-27	48.10 47.90
Feb-27	47.60
Mar-27 Apr-27	47.30
	46.80
Jun-27	46.50 46.30
Jul-27 Aug-27 Sep-27	46.30 45.10 45.90
Sep-27 Oct-27	45.90 45.60
	45.40
Nov-27	
Nov-27 Dec-27	45.20
Nov-27 Dec-27 Jan-28 Feb-28	44.90 44.70
Nov-27 Dec-27 Jan-28 Feb-28 Mar-28	44.90 44.70
Nov-27 Dec-27 Jan-28 Feb-28 Mar-28 Apr-28	44.70 44.70 44.50 44.30
Nov-27 Dec-27 Jan-28 Feb-28 Mar-28 Apr-28 May-28	44.90 44.70 44.50 44.30 44.10
Nov-27 Dec-27 Jan-28 Feb-28 Mar-28 Apr-28 May-28 Jun-28	44.90 44.70 44.50 44.30 44.10 43.90 43.70
Nov-27 Dec-27 Jan-28 Feb-28 Mar-28 Apr-28 May-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28	44.90 44.70 44.50 44.30 44.10 43.90 43.70 43.50 43.30
Nov-27 Dec-27 Jan-28 Feb-28 Mar-28 Apr-28 May-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28	44.90 44.70 44.50 44.30 44.10 43.90 43.70 43.50 43.10
Nov-27 Dec-27 Jan-28 Feb-28 Mar-28 Apr-28 May-28 Jun-28 Jun-28 Jun-28 Aug-28 Aug-28 Oct-28 Nov-28 Dec-28	44.90 44.70 44.50 44.30 44.10 43.90 43.70 43.50 43.30 43.10 42.90 42.70
Nov-27 Dec-27 Jan-28 Feb-28 Mar-28 Mar-28 May-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28 Dec-28 Dec-28 Jan-29	44.90 44.70 44.50 44.30 44.10 43.90 43.70 43.50 43.30 43.10 42.90 42.70 42.50
Nov-27 Dec-27 Dec-27 Lan-28 Feb-28 Mar-28 Apr-28 May-28 Jui-28 Jui-28 Jui-28 Jui-28 Dec-28 Dec-28 Jan-29 Mar-29 Mar-29	44.90 44.70 44.50 44.30 44.10 43.90 43.70 43.50 43.10 42.90 42.50 42.50
Nov-27 Dec-27 Dec-27 Jan-28 Feb-28 Mar-28 Apr-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28 Sep-28 Oct-28 Nov-28 Dec-28 Jan-29 Feb-29 Mar-29 Aur-29 Aur-29 Aur-29 Aur-29 Aur-29	44.90 44.70 44.50 44.30 44.10 43.90 43.70 43.30 43.10 42.90 42.70 42.30 42.20 42.00
Nov-27 Dec-27 Dec-27 Jan-28 Feb-28 Mar-28 Apr-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-29 Feb-29 May-29 May-29 Jun-29 Jun-29	44.90 44.70 44.50 44.30 44.10 43.90 43.70 43.30 43.10 42.90 42.70 42.20 42.20 44.90
Nov-27 Dec-27 Jan-28 Feb-28 May-28 May-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-28 Jun-29	44.90 44.70 44.50 44.50 44.10 43.90 43.70 43.50 43.30 42.70 42.70 42.50 42.20 42.20 41.60 41.60
Nov-27 Dec-27 Dec-27 Dec-27 Dec-27 Dec-27 Dec-28 Apr-28 Apr-28 May-28 May-28 May-28 May-28 Aug-28 Sep-28 Oct-28 Dec-28 Dec-28 Jan-29 Apr-29 Apr-29 Jun-29 Jun-29 Jun-29 Jun-29	44.90 44.70 44.50 44.50 44.10 43.90 43.70 43.50 43.10 42.90 42.70 42.20 42.30 42.30 42.40 41.80 41.40
Nov-27 Dec-27 Jan-28 Feb-28 Mary-28 Mary-28 May-28 Jul-28 Jul-28 Jul-28 Sep-28 Dec-28 Jan-29 Mar-29 Mar-29 Jun-29	44.90 44.70 44.50 44.50 44.10 43.90 43.70 43.50 43.30 43.10 42.70 42.70 42.70 42.70 42.80 41.40 41.40 41.10
Nov-27 Dec-27 Jan-28 Feb-28 Mary-28 Mary-28 May-28 Jul-28 Jul-28 Jul-28 Sep-28 Dec-28 Jan-29 Mar-29 Mar-29 Jun-29	44,90 44,70 44,50 44,50 44,10 43,90 43,90 43,50 43,30 43,30 42,20 42,20 42,20 41,80 41,60 41,40 41,10 40,90 40,90 41,90 40,90
Nov-27 Dec-27 Dec-27 Ian-28 Feb-28 Mar-28 Apr-28 Ian-28 Ian-28 Ian-28 Ian-28 Ian-28 Ian-28 Ian-28 Ian-28 Dec-28 Ian-29 Feb-29 Mar-29 Apr-29 Jul-29 Jul-29 Jul-29 Dec-29 De	44,90 44,70 44,50 44,50 44,30 44,10 43,90 43,70 43,50 43,30 43,10 42,20 42,20 42,20 42,20 42,20 41,80 41,10 41,10 40,90 40,80 40
Nov-27 Dec-27 Dec-27 Ian-28 Feb-28 Mar-28 Mar-28 Ian-28 Ian-28 Ian-28 Ian-28 Ian-28 Ian-28 Ian-28 Ian-28 Ian-29 Ian-30 Ian-28 Ian-28 Ian-29 Ian-29 Ian-30 Ian-28 Ian-28 Ian-28 Ian-30 Ian-28 Ia	44,90 44,70 44,30 44,30 44,10 43,70 43,70 43,70 43,70 43,30 43,30 43,30 42,20 42,20 42,20 42,20 41,80 41,80 41,10 41,30 41,30 41,40 41,30 41,40 41,30 41,40 41,50 41,60 41,60 40,80 40,80 40,50 40
Nov-27 Dec-27 Dec-27 Jan-28 Feb-28 Feb-28 Apr-28 Apr-28 Jan-28 Jan-28 Jan-28 Aug-28 Jan-29 Jan-30 Feb-30 Jan-30 Feb-30 Jan-30 Feb-30 Jan-30 Ja	44,90 44,70 44,10 44,10 44,10 44,10 43,39 43,39 43,39 43,39 43,39 42,29 42,29 42,29 42,20 42,20 42,20 42,20 41,80 41,60 41,40 40,80 40,80 40,40
Nov-27 Dec-27 Dec-27 Jan-28 Feb-28 Mar-28 Apr-28 Mar-28 May-28 Jun-28 Jun-28 Jun-28 Jun-28 Dec-28 Dec-28 Jun-29 Mar-29 Mar-29 Jun-29 Jun-29 Jun-29 Dec-29 Dec-29 Dec-29 Dec-29 Dec-29 Dec-29 Dec-29 Aug-30 Mar-30 Apr-30 Apr-30 Apr-30 Apr-30	44,90 44,70 44,30 44,30 44,10 43,70 43,70 43,70 43,70 43,30 43,30 43,30 42,20 42,20 42,20 42,20 41,80 41,80 41,10 41,30 41,30 41,40 41,30 41,40 41,30 41,40 41,50 41,60 41,60 40,80 40,80 40,50 40
Nov-27 Dec-27 Dec-27 Jan-28 Feb-28 Feb-28 Apr-28 Apr-28 Jan-28 Jan-28 Jan-28 Aug-28 Jan-29 Jan-30 Feb-30 Jan-30 Feb-30 Jan-30 Feb-30 Jan-30 Ja	44,90 44,70 44,50 44,50 44,50 44,10 44,10 44,10 43,90 43,70 43,90 43,70 43,50 43,10 42,90 42,30 42,20 42,20 41,80 41,40 41,40 41,40 41,40 40,90 40,80 40,80 40,80 40,80 40,80 40,80

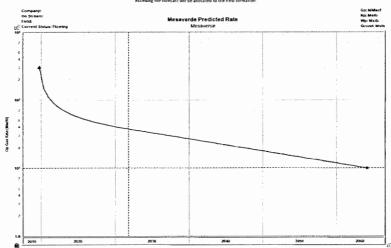


MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2018	JUL	993	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2018	AUG	1008	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2018	SEP	921	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2018	OCT .	1081	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2018	NOV	926	1	30
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2018	DEC	616	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2019	JAN	525	1	31
MITCHELL	1E	30045236450001	HILCORP ENERGY COMPANY	2019	FEB	58	1	28

#### Subtraction Allocation Forecast - Mitchell 1E

Base formation is the Fruitland Coal and the added formation to be comminged is the MesaVerde. The subtraction method applies an average monthly production forecast to the base formation using historic production. All production from this well exceeding the forecast will be allocated to the new formation.





Oct-30 Nov-30	39.10 38.90
Dec-30	38.80
Jan-31 Feb-31	38.50
Mar-31 Apr-31	38.40 38.20
May-31 Jun-31	38.10 38.00
Jul-31 Aug-31	37.80 37.70
Sep-31 Oct-31	37.60 37.40
Nov-31 Dec-31	37.30
Jan-32	37.10
Feb-32 Mar-32	36.90 36.80
Apr-32 May-32	36.70
Jun-32 Jul-32	36.40
Aug-32	36.20
Sep-32 Oct-32	36.10 35.90
Nov-32 Dec-32	35.80 35.70
Jan-33 Feb-33	35.60 35.40
Mar-33	35.30 35.20
May-33	35.10
Jun-33 Jul-33	35.00 34.90
Aug-33 Sep-33	34.70
Oct-33 Nov-33	34.50
Dec-33	34.30
Jan-34 Feb-34	34.10 34.00
Mar-34 Apr-34	33.90 33.80
May-34 Jun-34	33.70 33.60
jul-34	33.50
Aug-34 Sep-34	33.30 33.20
Oct-34 Nov-34	33.10 33.00
Dec-34 Jan-35	32.90 32.80
Feb-35	32.70
Mar-35 Apr-35	32.60 32.50
May-35	32.30 32.20
Jul-35	32.10 32.00
Aug-35 Sep-35	31.90
Oct-35 Nov-35	31.80 31.70
Dec-35 Jan-36	31.60 31.50
Feb-36 Mar-36	31.40
Apr-36	31.20
May 36 Jun-36	31.00 30.90
Jul-36 Aug-36	30.80 30.70
Sep-36 Oct 36	30.60 30.50
Nov-36	30.40
Dec 36 Jan-37 Feb-37	30.30 30.20 30.10
	30.00
Mar-37 Apr-37 May-37	29.90 29.80
Jun-37 Jul-37	29.70 29.60
Aug-37 Sep-37	29.50
Oct-37	29.30
Nov-37 Dec-37	29.20 29.10
Jan-38 Feb-38	29.00 28.90
Mar 38 Apr-38	28.80 28.70
May-38	28.60 28.50
Jun-38 Jul-38 Aug-38	28.40
Aug-38 Sep-38	28.20
Oct-38 Nov-38	28.10 28.00
Dec-38 Jan 39	27.80
Feb 39	27.80
Anr-39	27.60
May-39 Jun-39	27.50 27.40
Jul-39 Aug-39	27.30
Sep-39 Oct-39	27.10 27.00
	26.90 26.80
Nov-39	140.00
Dec-39 Jan-40	26.70
Dec-39 Jan-40 Feb-40 Mar-40	26.70 26.60 26.60
Dec-39 Jan-40 Feb-40 Mar-40 Apr-40 May-40	26.70 26.60 26.60 26.50 26.40
Dec-39 Jan-40 Feb-40 Mar-40 Apr-40 May-40 Jun-40	26.70 26.60 26.60 26.50 26.40 26.30 26.20
Dec-39 Jan-40 Feb-40 Mar-40 Apr-40 May-40 Jun-40 Jul-40 Aug-40	26.70 26.60 26.60 26.50 26.40 26.30 26.20 26.10
Dec-39 Jan-40 Feb-40 Mar-40 Apr-40 May-40 Jun-40 Jul-40 Aug-40 Sep-40 Oct-40	26.70 26.60 26.60 26.50 26.40 26.30 26.20 26.10 26.00 25.90
Dec-39 Jan-40 Feb-40 Mar-40 Apr-40 May-40 Jun-40 Jul-40 Aug-40 Sep-40 Oct-40 Nov-40	26.70 26.60 26.60 26.50 26.40 26.30 26.20 26.10 26.00 25.90 25.80
Dec-39 Jan-40 Feb-40 Mar-40 Apr-40 Jun-40 Jun-40 Jun-40 Jun-40 Aug-40 Sep-40 Oct-40 Nov-40 Dec-40 Jan-41	25.70 26.60 26.60 26.50 26.40 26.30 26.20 26.10 26.00 25.90 25.80 25.70 25.70
Dec.39 Jan-40 Mar-40 Mar-40 May-40 Jul-40 Jul-40 Jul-40 Sep-40 Oct-40 Nov-40 Dec.40 Mar-41 Mar-41	26.70 26.60 26.60 26.40 26.30 26.20 26.10 26.00 25.90 25.70 25.70 25.60 25.70 25.60 25.70
Dec.39 Jan-40 Feb-40 Mar-40 Apr-40 Mar-40 Apr-40 Jul-40 Jul-40 Aug-40 Sep-40 Oct-40 Nov-40 Dec-40 Jan-41 Feb-41 Mar-41 May-41 May-41	26.70 26.60 26.60 26.50 26.40 26.30 26.20 26.10 26.00 25.90 25.70 25.70 25.70 25.60 25.70 25.50 25.50
Dec.39 Jan-40 Mar-40 Mar-40 Apr-40 May-40 Jul-40 Jul-40 Aug-40 Sep-40 Sep-40 Nov-40 Dec.40 Jan-41 Apr-41 Mar-41 Jul-41	26.70 26.60 26.60 26.40 26.30 26.20 26.10 26.00 25.90 25.70 25.70 25.60 25.50 25.50 25.50
Dec.39 Jan-40 Feb-40 Mar-40 Apr-40 May-40 Jun-40 Jun-40 Jun-40 Jun-40 Jun-40 Jun-40 Jun-40 Jun-40 Jun-40 Aug-41 Nov-40 Dec.40 Jan-41 Mar-41 Apr-41 Apr-41 Aug-41 Aug-41 Aug-41 Aug-41	26.70 26.60 26.60 26.40 26.30 26.20 26.10 26.00 25.90 25.70 25.70 25.70 25.50 25
Dec.39 Jan.40 Feb.40 Mar-40 Apr-40 May-40 Jun-40 Jun-40 Jun-40 Jun-40 Jun-40 Jun-40 Jun-40 Nov-40 Nov-40 Nov-40 Dec.40 Jan-41 Feb.41 Mar-41 Jun-41 Jun-41 Jun-41 Jun-41 Sep.41 Aug-41	26.70 26.60 26.60 26.50 26.40 26.30 26.20 26.10 26.00 25.90 25.80 25.70 25.60 25.50 25
Dec.39 Jan-40 Feb-40 Mar-40 Apr-40 May-40 Jun-40 Jun-40 Jun-40 Jun-40 Jun-40 Jun-40 Jun-40 Dec-40 Aug-40 Dec-40 Jan-41 Jun-41 Ju	26.70 26.60 26.50 26.50 26.40 26.30 26.10 26.00 25.90 25.70 25.70 25.70 25.50 25.50 25.50 25.50 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25
Dec. 39 Jan. 40 Feb. 40 Mar-40 May-40 May-40 John 40 J	26.70 26.60 26.50 26.50 26.40 26.30 26.10 26.00 25.90 25.70 25.70 25.70 25.50 25.50 25.50 25.50 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25.40 25.50 25

May-42 Jun-42	24.30 24.20
JUP-42	24.10
Aug-42 Sep-42	24.10 24.00
Oct-42 Nov-42	23.90
Dec-42 Jan-43	23.70 23.60
Feb-43 Mar-43	23.60
Apr-43	23.40
May-43 Jun-43	23.30
Jul-43	23.20
Sep-43	23.00
Oct-43 Nov-43	22.90
Dec-43	22.80
Jan-44 Feb-44	22.60
Feb-44 Mar-44 Apr-44	22.60 22.50
May-44 Jun-44	22.40 22.30
101.00	22.20
Aug-44 Sep-44	22.20 22.10 22.00
Oct-44 Nov-44	22,00 21.90
Dec-44	21.90
Jan-45 Feb-45	21.80
Mar-45 Apr-45	21.60
Apr-45 May-45 Jun-45	21.50
Jun-45 Jul-45	21.40 21.40
Aug-45	21.30
Sep-45 Oct-45	21.20
Nov-45 Dec-45	21.10
Jan-46	20.90
Feb-46 Mar-46	20.90 20.80
Apr-46	20.70
May-46 Jun-46 Jul-46	20.60
Aug-45	20.40
Sep-46 Oct-46	20.40
Nov-46	20.20
	20.20
Jan-47 Feb-47 Mar-47	20.00 20.00
	19.90
Apr-47 May 47 Jun-47	19.80
	19.70 19.70
Sep-47	19.50
Oct-47	19.50 19.40
Nov-47 Dec-47	19.30
Jan-48 Feb-48	19.30 19.20
Mar-48 Apr-48	19.20 19.10
May-48	19.00 19.00
Jul-48	18.90
Aug-48 Sep-48	18.80
Oct-48	18.70
Nov 48 Dec 48	18.60 18.60
Jan-49 Feb-49	18.50 18.40
11 10	18.40 18.30
May-49	18.30
Jun-49 Jul-49	18.20
Aug 49	18.10
Sep-49 Oct-49	18.00
Nov-49 Dec-49 Jan-50	17.90
Jan-50 Feb-50	17.80
Mar-50	17.70
Apr-50 May-50	17.60
Apr-50 May-50 Jun-50 Jul-50	17.50
Aug-50	17.40
Sep-50	17.30
Oct-50	17.20
Nov-50 Dec-50	17.10
Nov-50 Dec-50 Jan-51	17.10
Nov-50 Dec-50 Jan-51 Feb-51 Mar-51	17.10 17.00 16.90
Nov-50 Dec-50 Jan-51 Feb-51 Mar-51 Apr-51	17.10 17.00 16.90
Nov-50 Dec-50 Jan-51 Feb-51 Mar-51 Apr-51	17.10 17.00 16.90 16.80 16.80
Nov-50 Dec-50 Jan-51 Feb-51 Mar-51 Apr-51 May-51 Jul-51 Jul-51	17.10 17.00 16.90 16.90 16.80 16.80 16.70
Nov-50 Dec-50 Jan-51 Feb-51 Mar-51 Apr-51 Jul-51 Jul-51 Aug-51 Sep-51	17.10 17.00 16.90 16.90 16.80 16.80 16.70 16.70
Nov-50 Dec-50 Jan-51 Feb-51 Mar-51 Apr-51 May-51 Jul-51 Jul-51 Aug-51 Sep-51 Oct-51 Nov-51	17.10 17.00 16.90 16.90 16.80 16.80 16.70 16.70 16.60
Nov-50 Dec-50 Jan-51 Feb-51 Mar-51 Jul-51 Ju	17.10 17.00 16.90 16.90 16.80 16.80 16.70 16.70 16.60 16.50
Nov-50 Dec-50 Jan-51 Feb-51 Mar-51 Jul-51 Ju	17.10 17.00 16.90 16.90 16.80 16.80 16.70 16.60 16.50 16.50 16.50 16.40 16.40
Nov-50 Dec-50 Jan-51 Feb-51 Mar-51 May-51 Jul-51 Jul-51 Jul-51 Nov-51 Dec-51 Jan-52 Feb-52 Mar-52 Apr-52 Apr-51	17.10 17.00 16.90 16.80 16.80 16.70 16.70 16.60 16.60 16.60 16.40 16.40 16.30 16.40
Nov-50 Dec-50 Jan-51 Feb-51 Mar-51 May-51 Jul-51 Jul-51 Jul-51 Nov-51 Dec-51 Jan-52 Feb-52 Mar-52 Apr-52 Apr-51	17.10 17.00 16.90 16.80 16.80 16.70 16.70 16.70 16.50 16.50 16.50 16.40 16.30 16.30 16.30
Nov-50 Dec-50 Jan-51 Feb-51 Mar-51 May-51 Jul-51 Jul-51 Jul-51 Jul-51 Jul-51 Jul-51 Jul-51 Jul-51 Jul-51 Aug-51 Jul-52 Aug-51 Jul-52	17.10 17.00 16.90 16.90 16.80 16.80 16.70 16.70 16.70 16.50 16.50 16.40 16.30 16.30 16.30 16.30 16.30
Nov-50 Dec-50 Jan-51 Apr-51 Mar-51 May-51 Jun-51 Jun-51 Jun-51 Jun-51 Jun-51 Jun-51 Dec-51 Jan-52 Apr-52 Apr-52 Jun-52 Ju	17.10 17.00 16.90 16.90 16.80 16.80 16.70 16.70 16.70 16.50 16.50 16.40 16.30 16.30 16.30 16.30 16.30
Nov-50 Dec-50 Jan-51 Feb-51 Mar-51 May-51 Jun-51 Jun-51 Jun-51 Jun-51 Jun-51 Jun-51 Jun-51 Jun-51 Dec-51 Jan-52 May-52 May-52 May-52 Jun-52 Jun-52 May-52 May-52 Jun-52 Jun-52 Jun-52 Jun-53 Jun-51 Jun-52 Ju	17.10 17.00 16.90 16.90 16.80 16.80 16.70 16.70 16.70 16.50 16.50 16.40 16.30 16.30 16.30 16.30 16.30
Nov-50 Dec-50 Jan-51 Feb-51 Mar-51 Apr-51 May-51 Jul-51 Aug-51 Sep-51 Oct-51 Nov-51 Dec-51 Jan-52 Feb-52 May-52 May-52 May-52 May-52 Jul-52 Apr-52 Apr-52 Aug-52 Oct-52 Oct-52 Oct-52 Dec-52	17.10 17.00 16.90 16.90 16.80 16.80 16.70 16.70 16.70 16.50 16.50 16.40 16.30 16.30 16.30 16.20 16.10 16.20 16.30 16.30 16.30
Nov-50 Dec-50 Jan-51 Feb-51 Mar-51 Apr-51 Jul-51 Jul-51 Jul-51 Aug-51 Sep-51 Oct-51 Nov-51 Jan-52 Jan-52 Ju	17.10 17.00 16.90 16.90 16.80 16.80 16.70 16.60 16.50 16.40 16.50 16.40 16.30
Nov-50 Dec-50 Jan-51 Feb-51 Mar-51 Mar-51 Jun-51 Jun-51 Jun-51 Jun-51 Jun-51 Jun-51 Dec-51 Dec-51 Jan-52 Feb-52 Mar-52 Jun-52 Ju	17.10 17.00 16.90 16.90 16.80 16.80 16.70 16.60 16.50 16.50 16.50 16.40 16.30 16.30 16.20 16.20 16.20 16.30
Nov-50 Dec-50 Dec-50 Jan-51 Feb-51 Mar-51 Apr-51 Mar-51 Jun-51 Jun-52 Feb-52 Mar-52 Mar-52 Jun-52 Jun-53 Jun-54 Jun-54 Jun-54 Jun-54 Jun-55 Jun-54 Jun-55 Jun-56 Ju	17.10 17.00 16.90 16.90 16.80 16.80 16.70 16.60 16.70 16.60 16.50 16.40 16.30 16.30 16.30 16.30 16.20 16.10 16.30
Nov-50 Dec-50 Jan-51 Feb-51 Mar-51 Apr-51 Mar-51 Apr-51 Jun-51 Jun-51 Jun-51 Jun-51 Jun-51 Jun-52 Aug-51 Sep-51 Dec-51 Jan-52 Mar-52 Mar-52 Mar-52 Mar-52 Mar-52 Mar-52 Mar-52 Mar-52 Jun-52 Jun-53 Jun-54 Ju	17.10 17.00 16.90 16.80 16.80 16.80 16.70 16.60 16.50 16.50 16.50 16.40 16.30 16.40 16.30 16.20 16.20 16.20 16.30
Nov-50 Dec-50 Jan-51 Mar-51 Mar-51 Mar-51 May-51 May-52 May-53 May-54 Ma	17.10 16.90 16.90 16.90 16.80 16.80 16.80 16.80 16.80 16.80 16.80 16.80 16.80 16.80 16.80 16.50
Nov-50 Dec 50 Jan-51 Mar-51 Mar-51 Mar-51 Mar-51 Jan-10 Jan-51 Jan-51 Jan-51 Jan-51 Jan-51 Jan-51 Jan-52 Jan-53 Jan-52 Jan-53 Jan-52 Jan-53 Jan-52 Jan-53 Ja	17.10 17.00 16.90 16.90 16.80 16.80 16.70 16.60 16.70 16.60 16.50 16.40 16.30 16.30 16.30 16.30 16.20 16.10 16.30

	45.40
Dec-53 Jan-54	15.10
Feb-54 Mar-54	15.00
Mar-54	15.00
Apr-54 May-54	14.90 14.90
Jun-54	14.80
Jul-54	14.80
Aug-54	14.70
Sep-54 Oct-54	14.70 14.60
Nav-54	14.60
Dec-54	14.50 14.50
Jan-55 Feb-55	14.40
Mar-55	14.40
Apr-55 May-55 Jun-55	14.30
May-S5	14.30 14.20 14.20
Jun-55 Jul-55	14.20
Aug-55	14.10
Sep-55	14 10
Oct-55 Nov-55	14.10
Nov-55 Dec-55	14.00
Jan-56	13.90
Feb-56	13.90
Mar-\$6	13.80
Apr-56 May-56	13.80 13.70 13.70 13.60
Jun-56	13.70
Jul-56	
Aug-56 Sep-56	13.60
Sep-56	13.50 13.50
Oct-56 Nov-56	
Dec-56	13.40
Jan-57	13.40
Feb-57	13.30
Feb-57 Mar-57 Apr-57	13.30 13.20
Apr-57 May-57 Jun-57	13.20
	13.10
Jul-57 Aug-57	13.10 13.00
Sep-57	13.00
Oct-57	13.00
Oct-57 Nov-57	12.90
Dec-57 Jan-58	12.90
Feb-58	12.80
Mar-58 Apr-58	112.70
Apr. SS	12.70 12.60 12.60
May-58 Jun-58	12.60
Jul-58	12.60
Aug-58	
Sep-58	12.50
061-39	12.40
Nov-58 Dec-58	12.40 12.30
Jan-59	12.30
Feb-59 Mar-59 Apr-59	12.30
Mar-59	12.20
Apr-\$9 May-\$9	12.20
Jun-59	12.10
Jul-59	12.10
Aug-59	12.00
Sep 59 Oct-59	12.00 11.90
Nov-59	11.90
Dec-59 Jan-60 Feb-60	11.90
Jan-60	11.80
Feb-60	11.80 11.70 11.70
Mar 60 Apr 60	11.70
May-60	11.70
Jun-60	11.60
Jul-60	11.60 11.50
Aug-60 Sep-60	11.50
Oct-60	11.50
Nov-60 Dec-60	11.40
Dec-60 Jan-61	11.40 11.30
Feb-51	11.50
Mar-61	11.30
	11.20
Apr-61 May 61	11.20
Apr-61 May 61 Jun-61	11.20 11.20 11.10
Apr-61 May 61 Jun-61 Jul 61 Aug-61	11.20 11.20 11.10 11.10
Apr-61 May 61 Jun-61 Jul 61 Aug-61 Sep-61	11.20 11.20 11.10 11.10 11.00
Apr-61 May 61 Jun-61 Jul 61 Aug-61 Sep-61 Oct-61	11.20 11.20 11.10 11.10 11.00
Apr-61 May 61 Jun-61 Jul 61 Aug-61 Sep-61 Oct-61 Nov-61	11.20 11.20 11.10 11.10 11.00 11.00 11.00
Apr-61 May 61 Jun-61 Jul 61 Aug-61 Sep-61 Oct-61 Nov-61 Dec-61 Jan 62	11.20 11.20 11.10 11.10 11.00 11.00 11.00 10.90
Apr-61 May 61 Jun-61 Jul 61 Aug-61 Sep-61 Oct-61 Nov-61 Dec-61 Jan 62 Feb-62	11.20 11.20 11.10 11.10 11.00 11.00 11.00 11.00 10.90
Apr-61 May 61 Jun-61 Jul 61 Aug-61 Oct-61 Nov-61 Dec-61 Jan 62 Feb-62 Mar-62	11.20 11.20 11.10 11.10 11.00 11.00 11.00 11.00 10.90 10.90 10.90
Apr-61 May 61 Jun-61 Jul 61 Aug-61 Sep-61 Oct-61 Nov-61 Dec-61 Jan 62 Feb-62 Mar-62 Apr 62 May-62	11.20 11.20 11.10 11.10 11.00 11.00 11.00 11.00 10.90 10.90 10.90
Apr-61 May 61 Jun-61 Jun-61 Jun-61 Jun-61 Sep-61 Oct-61 Dec-61 Jan 62 Feb-62 Mar-62 Apr-62 Jun-62 Jun-62	11.20 11.20 11.10 11.10 11.00 11.00 11.00 11.00 10.90 10.90 10.90 10.90 10.80 10.80
Apr-61 May 61 Jun-61 Jul 61 Aug-61 Sep-61 Oxt-61 Mov-61 Jan-62 May-62 May-62 May-62 Jul-62 Jul-62	11.20 11.20 11.10 11.10 11.00 11.00 11.00 11.00 10.90 10.90 10.90 10.90 10.80 10.80
Apr-61 May 61 Jun-61 Jul-61 Jul-61 Jul-61 Sep-61 Oct-61 Mov-61 Dec-61 Jan-62 Feb-62 May-62 Muy-62 Jun-62 Jun-62 Jul-62 Apr-62 Apr-62 Jul-62 Aug-62 Aug-62 Aug-62 Aug-62 Aug-62 Aug-62 Aug-62 Aug-62 Aug-62	11.20 11.20 11.10 11.10 11.00 11.00 11.00 11.00 10.90 10.90 10.80 10.70 10.70 10.70
Apr-61 May 61 Jun-61 Jun-61 Jun-61 Jun-62 Sep-61 Oct-61 Jan-62 Feb-62 May-62 Jun-62 Ju	11.20 11.20 11.10 11.10 11.00 11.00 11.00 11.00 10.90 10.90 10.80 10.70 10.70 10.70
Apr-61 May 61 Jun-61 Jun-61 Jun-61 Jun-61 Oct-61 Oct-61 Dec-61 Jun-62 Apr-62 May-62 Jun-62 Jun-62 Aug-62 Aug-62 Aug-62 Aug-62 Aug-62 Nov-62 No	11.20 11.10 11.10 11.10 11.10 11.00 11.00 10.90 10.90 10.30 10.50 10.70 10.70 10.60 10.60 10.60
Apr-61 May 61 Jun-61 Jun-61 Jun-61 Oxt-61 Oxt-61 Nov-61 Dec-61 Jan-62 May-62 May-62 Jun-62 Jun-62 Jun-62 Jun-62 Sep-62 Oxt-62 Nov-62 Dec-62 Dec-62	11.20 11.10 11.10 11.10 11.10 11.00 11.00 10.90 10.90 10.30 10.50 10.70 10.70 10.60 10.60 10.60
Apr-61, May 61, Jun-61, Jun-61, Jun-61, Jun-61, Oct-61, Nov-61, Dec-61, Jun-62, Apr-62, May-62, Jun-62, Jun-62, Aug-62, Aug-62, Sep-62, Oct-62, Nov-62, Dec-62, Nov-62, Dec-62, Dec-62, Dec-62, Dec-62, Dec-62, Dec-62,	11.20 11.10 11.10 11.10 11.10 11.00 11.00 11.00 10.90 10.90 10.80 10.70 10.70 10.60 10.60 10.60 10.60 10.50
Apr-61, May 61, Jun-61, Jun-61, Jun-61, Jun-61, Oct-61, Nov-61, Dec-61, Jun-62, Apr-62, May-62, Jun-62, Jun-62, Aug-62, Aug-62, Sep-62, Oct-62, Nov-62, Dec-62, Nov-62, Dec-62, Dec-62, Dec-62, Dec-62, Dec-62, Dec-62,	11.20 11.10 11.10 11.10 11.10 11.00 11.00 11.00 10.90 10.90 10.80 10.70 10.70 10.60 10.60 10.60 10.60 10.50
Apr-61 May 61 Jun-61 Jul 61 Aug-61 Sep-61 Oct-61 Nov-61 Jan-62 Feb-62 Mar-62 Apr-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-63 Aug-63 Apr-63 Mar-63 Mar-63 Mar-63	11.20 11.10 11.10 11.10 11.10 11.00 11.00 11.00 10.90 10.90 10.80 10.70 10.70 10.60 10.60 10.60 10.60 10.50
Apr-61 May 61 Jun-61 Jun-61 Aug-61 Oxt-61 Nov-61 Dec-61 Jan-62 Mar-62 Aug-62 Mar-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-63 Nov-63 Aug-63	11.20 11.20 11.10 11.10 11.10 11.00 11.00 11.00 10.90 10.90 10.90 10.30 10.80 10.70 10.70 10.60 10.60 10.60 10.60 10.60 10.60
Apr-61 May 61 Jun-61 Jun-61 Aug-61 Sep-61 Oxt-61 Mov-61 Jan-62 May-62 Apr 62 May-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 May-62 May-62 May-63 Jun-63 Apr-63 May-63 Jun-63 Apr-63 May-63 Jun-63 Apr-63 May-63 Jun-63 Apr-63 May-63 Jun-63 Apr-63 May-63 Jun-63 Apr-63 May-63 Jun-63 Apr-63 May-63 Jun-63 Apr-63 May-63 Jun-63 Apr-63 Jun-63 Apr-63 Jun-63 Apr-63 Jun-63 Ju	11.20 11.20 11.10 11.10 11.10 11.00 11.00 11.00 10.90 10.90 10.90 10.30 10.80 10.70 10.70 10.60 10.60 10.60 10.60 10.60 10.60
Apr-61 May 61 Jun-61 Jun-61 Jul-61 Jul-61 Aug-61 Sep-61 Oct-61 Jun-62 Apr-62 Apr-62 Apr-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-63 Jun-63 Apr-63 May-63 Jun-63 Ju	11.20 11.20 11.10 11.10 11.10 11.00 11.00 11.00 10.90 10.90 10.90 10.30 10.80 10.70 10.70 10.60 10.60 10.60 10.60 10.60 10.60
Apr-61 May 61 Jun-61 Jun-61 Jun-61 Jun-61 Jun-61 Jun-61 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-63 Ju	11.20 11.10 11.10 11.10 11.10 11.10 11.10 11.10 11.10 11.00 11.00 10.90 10.90 10.90 10.80 10.80 10.70 10.70 10.70 10.60 10.60 10.60 10.60 10.50 10.50 10.50 10.50 10.50 10.50 10.50 10.50 10.50 10.50 10.50 10.50 10.50 10.50
Apr-61 May 61 Jun-61 Jun-61 Jun-61 Jun-61 Jun-61 Jun-61 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-63 Ju	11.20 11.20 11.10 11.10 11.10 11.10 11.10 11.10 11.10 11.00 11.00 11.00 10.90 10.90 10.80 10.70
Apr-61 May 61 Jun-61 Jun-61 Jul-61 Jul-61 Aug-61 Sep-61 Oct-61 Jun-62 Apr-62 Apr-62 Apr-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-62 Jun-63 Jun-63 Apr-63 May-63 Jun-63 Ju	11.20 11.10 11.10 11.10 11.10 11.10 11.10 11.10 11.10 11.00 11.00 10.90 10.90 10.90 10.80 10.80 10.70 10.70 10.70 10.60 10.60 10.60 10.60 10.50 10.50 10.50 10.50 10.50 10.50 10.50 10.50 10.50 10.50 10.50 10.50 10.50 10.50



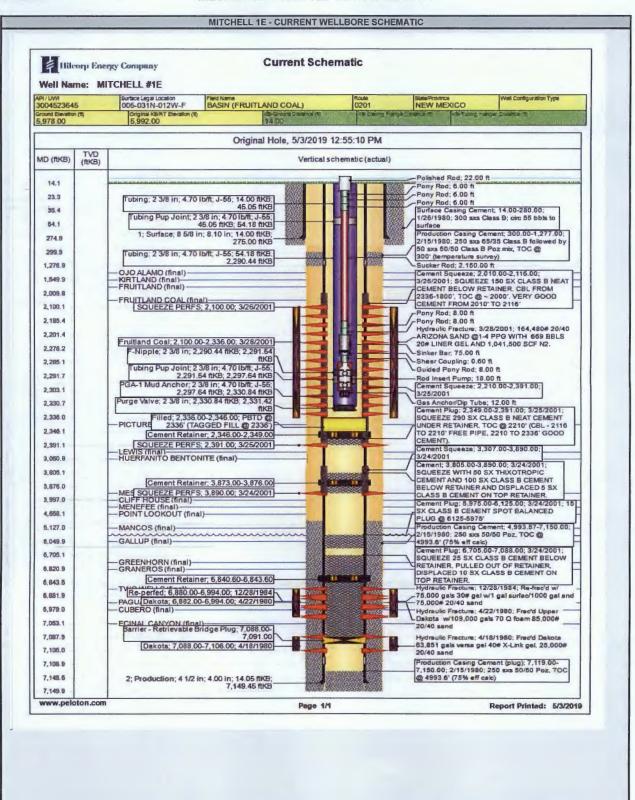
# HILCORP ENERGY COMPANY MITCHELL 1E MESA VERDE RECOMPLETION SUNDRY

API #: 3004523645

	API #:	3004523645	
175		JOB	PROCEDURES
V	-		rs prior to MIRU. Record and document all casing pressures <u>daily</u> , including OCD, BLM (where applicable), and HEC safety and environmental regulations.
	MIRU workover rig a	and associated equipment; NU and test BOP.	
1	2. Gather Fruitland Co	pal gas analysis. TOOH with 2 3/8" tubing set a	t 2,331°
;	3. Drill out CICR @ 23	46'	
4	_	73', CO to PBTD at 5975' this CICR is a balanced plug laid f/ 6125-5975'	and a CICR set at 6840' w/ 90' of cement on top
		and run a CBL on the 4-1/2" casing. Verify cement on cmt remediation, as required.	ent bond within the Mesa Verde and confirm TOC. Review CBL results with BLM and
6	<ol><li>RIH w/ a pkr and se the balanced plug</li></ol>	t 50' below the bottom FRC perforation (2336').	Contact the NMOCD and BLM, conduct a witnessed MIT below the packer and above
;	7. Set a 4-1/2" cast iro	n bridge plug at +/- 5227' to provide a base for t	he frac
1	8. Perforate the Mesa	Verde. (Top perforation @ 3997', Bottom perfor	ation @ 5127')
,	9. RIH w/ frac string ar	d packer with ceramic disc sub. Set pkr 50-75'	above the top MV perforation and land tbg.
10			9,000#, PT backside to 300# (to insure packer is set). s to max anticipated treating pressure (~60% of burst)
1.	1. RU slickline. RIH ar	nd break ceramic disc. RD slickline	
12	2. Frac the Mesa Verd	ie in 1-2 stages down the frac string.	
13	3. Flowback well for 1-	3 days, as required	
14	4. MIRU workover rig.	Nipple down frac stack, nipple up BOPs and tes	st.
15	<ol><li>Release packer and</li></ol>	POOH w/ frac string	
16	6. RIH w/ rock bit and	clean out to PBTD at 5,227'	
17	7. TIH and land produc	ction tubing. ND BOPs and NU tree. Pump off e	xpendable check.
18	8. RDMO. Get a comr	ningled Fruitland Coal/Mesa Verde flow rate ar	nd gas analysis.



# HILCORP ENERGY COMPANY MITCHELL 1E MESA VERDE RECOMPLETION SUNDRY



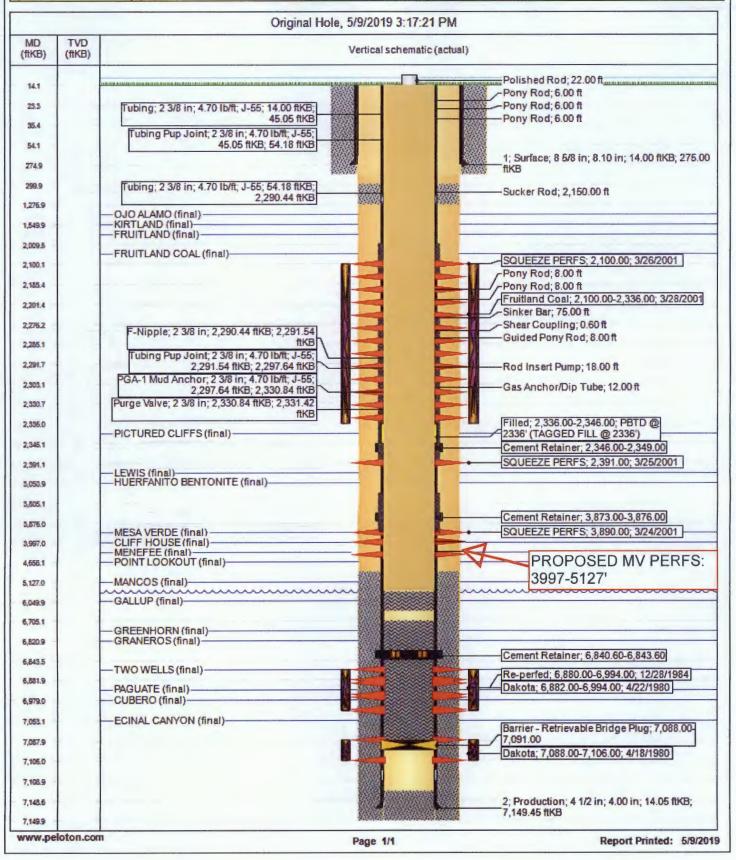


## **Current Schematic - Version 1**

PROPOSED

Well Name: MITCHELL #1E

3004523645	Surface Legal Location 005-031N-012W-F		110000	State/Province NEW MEX		Well Configuration Type
Ground Elevation (ft) 5,978.00	Original KB/RT Elevation (ft) 5.992.00	AS-Ground Distance (和) 14.00	KS-Casing Flange Dis	fance (fi)	KB-Tubing Hanger	Distance (ff)



## McMillan, Michael, EMNRD

From: Mandi Walker <mwalker@hilcorp.com>

**Sent:** Friday, May 10, 2019 9:59 AM **To:** McMillan, Michael, EMNRD

Cc: Alex Liang; Priscilla Shorty; Rob Carlson

Subject: [EXT] RE: [EXTERNAL] RE: Mitchell 1E - 30-045-23645

That is correct.

From: McMillan, Michael, EMNRD [mailto:Michael.McMillan@state.nm.us]

Sent: Friday, May 10, 2019 9:57 AM

To: Mandi Walker < mwalker@hilcorp.com>

Cc: Alex Liang <aliang@hilcorp.com>; Priscilla Shorty <pshorty@hilcorp.com>; Rob Carlson <rcarlson@hilcorp.com>

Subject: RE: [EXTERNAL] RE: Mitchell 1E - 30-045-23645

Are use using the 4 year method also?

After 4 years you will submit a revised well allocation?

Mike

From: Mandi Walker < mwalker@hilcorp.com>

Sent: Friday, May 10, 2019 9:55 AM

To: McMillan, Michael, EMNRD < Michael. McMillan@state.nm.us>

Cc: Alex Liang <aliang@hilcorp.com>; Priscilla Shorty <pshorty@hilcorp.com>; Rob Carlson <rarlson@hilcorp.com>

Subject: [EXT] RE: [EXTERNAL] RE: Mitchell 1E - 30-045-23645

Good morning Michael,

Attached please find a current and proposed WB schematic. I also have the allocation justification from our Engineer.

JUSTIFICATION OF ALLOCATION: Hilcorp requests that production for the downhole commingle be allocated using the subtraction method. The base formation is the Basin Fruitland Coal and the added formation to be commingled is the Mesaverde. The subtraction method applies an average monthly production forecast to the base formation(s) using historic production. All production from this well exceeding the forecast will be allocated to the new formation(s). A fixed percentage based allocation will be submitted after the fourth year of production. See attached documents for production forecast. Oil production will be allocated based on average formation yields from offset wells.

Let me know if you need anything from me.

Happy Friday!

Mandi

From: McMillan, Michael, EMNRD [mailto:Michael.McMillan@state.nm.us]

**Sent:** Thursday, May 9, 2019 1:53 PM

To: Mandi Walker < mwalker@hilcorp.com>

Cc: Alex Liang <a liang@hilcorp.com</a>; Priscilla Shorty <a liang@hilcorp.com</a>; Rob Carlson <a liang@hilcorp.com</a>;

Subject: RE: [EXTERNAL] RE: Mitchell 1E - 30-045-23645

## I need a current and proposed wellbore diagram

From: Mandi Walker < mwalker@hilcorp.com >

Sent: Thursday, May 9, 2019 12:37 PM

To: McMillan, Michael, EMNRD < Michael. McMillan@state.nm.us>

Cc: Alex Liang <aliang@hilcorp.com>; Priscilla Shorty <pshorty@hilcorp.com>; Rob Carlson <<u>rcarlson@hilcorp.com</u>>

Subject: [EXT] RE: [EXTERNAL] RE: Mitchell 1E - 30-045-23645

My mistake Michael,

The letter from our Land department did not make it in the attachments, I have attached it now. The ownership is identical and no notification is required.

Thank you Mandi

From: McMillan, Michael, EMNRD [mailto:Michael.McMillan@state.nm.us]

Sent: Thursday, May 9, 2019 11:26 AM
To: Mandi Walker <a href="mailto:rmwalker@hilcorp.com">rmwalker@hilcorp.com</a>>

Cc: Alex Liang <aliang@hilcorp.com>; Priscilla Shorty <pshorty@hilcorp.com>; Rob Carlson <<u>rcarlson@hilcorp.com</u>>

Subject: [EXTERNAL] RE: Mitchell 1E - 30-045-23645

Where is notification information?

From: McMillan, Michael, EMNRD

Sent: Thursday, May 9, 2019 11:04 AM

To: Mandi Walker <a href="mailto:rmwalker@hilcorp.com">rmwalker@hilcorp.com</a>

Cc: Alex Liang <aliang@hilcorp.com>; Priscilla Shorty pshorty@hilcorp.com>; Rob Carlson@hilcorp.com>

Subject: RE: Mitchell 1E - 30-045-23645

I cannot read the Basin Fruitland coal production.

Put gas and water on a single sheet

From: Mandi Walker < mwalker@hilcorp.com>

Sent: Thursday, May 9, 2019 10:59 AM

To: McMillan, Michael, EMNRD < Michael. McMillan@state.nm.us>

Cc: Alex Liang <aliang@hilcorp.com>; Priscilla Shorty <pshorty@hilcorp.com>; Rob Carlson <<u>rcarlson@hilcorp.com</u>>

Subject: [EXT] Mitchell 1E - 30-045-23645

Good morning Michael,

Attached please find the application for the DHC to commingle the existing FC with the MV Recomplete we are planning.

Thank you,

## Mandi Walker

SJ North Operations/Regulatory Technician Hilcorp Energy Company 505.324.5122 <u>mwalker@hilcorp.com</u> The information contained in this e-mail message is confidential information intended only for the use of the recipient(s) named above. In addition, this communication may be legally privileged. If the reader of this e-mail is not an intended recipient, you have received this e-mail in error and any review, dissemination, distribution or copying is strictly prohibited. If you have received this e-mail in error, please notify the sender immediately by return e-mail and permanently delete the copy you received.

While all reasonable care has been taken to avoid the transmission of viruses, it is the responsibility of the recipient to ensure that the onward transmission, opening or use of this message and any attachments will not adversely affect its systems or data. No responsibility is accepted by the company in this regard and the recipient should carry out such virus and other checks as it considers appropriate.

## McMillan, Michael, EMNRD

From: Mandi Walker <mwalker@hilcorp.com>

**Sent:** Friday, May 10, 2019 9:55 AM **To:** McMillan, Michael, EMNRD

**Cc:** Alex Liang; Priscilla Shorty; Rob Carlson

Subject: [EXT] RE: [EXTERNAL] RE: Mitchell 1E - 30-045-23645

Attachments: Mitchell 1E\_MV Recomplete\_NOI\_050319.pdf

Good morning Michael,

Attached please find a current and proposed WB schematic. I also have the allocation justification from our Engineer.

JUSTIFICATION OF ALLOCATION: Hilcorp requests that production for the downhole commingle be allocated using the subtraction method. The base formation is the Basin Fruitland Coal and the added formation to be commingled is the Mesaverde. The subtraction method applies an average monthly production forecast to the base formation(s) using historic production. All production from this well exceeding the forecast will be allocated to the new formation(s). A fixed percentage based allocation will be submitted after the fourth year of production. See attached documents for production forecast. Oil production will be allocated based on average formation yields from offset wells.

Let me know if you need anything from me.

Happy Friday! Mandi

From: McMillan, Michael, EMNRD [mailto:Michael.McMillan@state.nm.us]

**Sent:** Thursday, May 9, 2019 1:53 PM **To:** Mandi Walker <a href="mailto:rwalker@hilcorp.com">rwalker@hilcorp.com</a>

Cc: Alex Liang <aliang@hilcorp.com>; Priscilla Shorty <pshorty@hilcorp.com>; Rob Carlson <rcarlson@hilcorp.com>

Subject: RE: [EXTERNAL] RE: Mitchell 1E - 30-045-23645

I need a current and proposed wellbore diagram

From: Mandi Walker < <a href="mwalker@hilcorp.com">mwalker@hilcorp.com</a>>

Sent: Thursday, May 9, 2019 12:37 PM

To: McMillan, Michael, EMNRD < Michael. McMillan@state.nm.us >

**Cc:** Alex Liang <a liang@hilcorp.com>; Priscilla Shorty <pshorty@hilcorp.com>; Rob Carlson crcarlson@hilcorp.com>

Subject: [EXT] RE: [EXTERNAL] RE: Mitchell 1E - 30-045-23645

My mistake Michael,

The letter from our Land department did not make it in the attachments, I have attached it now. The ownership is identical and no notification is required.

Thank you Mandi

From: McMillan, Michael, EMNRD [mailto:Michael.McMillan@state.nm.us]

Sent: Thursday, May 9, 2019 11:26 AM

To: Mandi Walker < mwalker@hilcorp.com>

Cc: Alex Liang <aliang@hilcorp.com>; Priscilla Shorty <pshorty@hilcorp.com>; Rob Carlson <rcarlson@hilcorp.com>

Subject: [EXTERNAL] RE: Mitchell 1E - 30-045-23645

Where is notification information?

From: McMillan, Michael, EMNRD
Sent: Thursday, May 9, 2019 11:04 AM
To: Mandi Walker <a href="mailto:rmvalker@hilcorp.com">mwalker@hilcorp.com</a>

Cc: Alex Liang <aliang@hilcorp.com>; Priscilla Shorty <pshorty@hilcorp.com>; Rob Carlson <rcarlson@hilcorp.com>

Subject: RE: Mitchell 1E - 30-045-23645

I cannot read the Basin Fruitland coal production.

Put gas and water on a single sheet

From: Mandi Walker < mwalker@hilcorp.com>

Sent: Thursday, May 9, 2019 10:59 AM

To: McMillan, Michael, EMNRD < Michael. McMillan@state.nm.us>

Cc: Alex Liang <aliang@hilcorp.com>; Priscilla Shorty <pshorty@hilcorp.com>; Rob Carlson <rcarlson@hilcorp.com>

Subject: [EXT] Mitchell 1E - 30-045-23645

Good morning Michael,

Attached please find the application for the DHC to commingle the existing FC with the MV Recomplete we are planning.

Thank you,

## Mandi Walker

SJ North Operations/Regulatory Technician Hilcorp Energy Company 505.324.5122 <u>mwalker@hilcorp.com</u>

The information contained in this e-mail message is confidential information intended only for the use of the recipient(s) named above. In addition, this communication may be legally privileged. If the reader of this e-mail is not an intended recipient, you have received this e-mail in error and any review, dissemination, distribution or copying is strictly prohibited. If you have received this e-mail in error, please notify the sender immediately by return e-mail and permanently delete the copy you received.

While all reasonable care has been taken to avoid the transmission of viruses, it is the responsibility of the recipient to ensure that the onward transmission, opening or use of this message and any attachments will not adversely affect its systems or data. No responsibility is accepted by the company in this regard and the recipient should carry out such virus and other checks as it considers appropriate.

Production Summary Report API: 30-045-27 385 A B GEREN 1002							
Year	Pool	Oil(BBLS)	Gas(MCF)	Water(BBLS)	Days P/I		
9/1/2018	[71629] BASIN FRUITLAND COAL (GAS)	0	2988	0	30		
10/1/2018	[71629] BASIN FRUITLAND COAL (GAS)	0	3125	0	31		
11/1/2018	[71629] BASIN FRUITLAND COAL (GAS)	0	2998	0	30		
12/1/2018	[71629] BASIN FRUITLAND COAL (GAS)	0	2775	0	30		
1/1/2019	[71629] BASIN FRUITLAND COAL (GAS)	0	2534	0	30		
2/1/2019	[71629] BASIN FRUITLAND COAL (GAS)	0	2860	0	28		
Cum		109	1081327	1204			

Production Summary Report API: 30-045-27385 A B GEREN #002						
/ear	Pool	Oil(BBLS)	Gas(MCF)	Water(BBLS)	Days P/I	
9/1/2018	[71629] BASIN FRUITLAND COAL (GAS)	0	2988	0	30	
10/1/2018	[71629] BASIN FRUITLAND COAL (GAS)	0	3125	0	31	
11/1/2018	[71629] BASIN FRUITLAND COAL (GAS)	0	2998	0	30	
12/1/2018	[71629] BASIN FRUITLAND COAL (GAS)	0	2775	0	30	
1/1/2019	[71629] BASIN FRUITLAND COAL (GAS)	0	2534	0	30	
2/1/2019	[71629] BASIN FRUITLAND COAL (GAS)	0	2860	0	28	
Cum		109	1081327	1204		