

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

FORM APPROVED
OMB No. 1004-0135
Expires July 31, 1996

OCD-HOBBS

JAN 03 2011

SUNDRY NOTICES AND REPORTS ON WELLS
**Do not use this form for proposals to drill or to re-enter an
abandoned well. Use form 3160-3 (APD) for such proposals.**

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other	5. Lease Serial No. NM-052
2. Name of Operator Cimarex Energy Co. of Colorado	6. If Indian, Allottee or Tribe Name
3a. Address 600 N. Marienfeld St., Ste. 600; Midland, TX 79701	7. If Unit or CA/Agreement, Name and/or No.
3b. Phone No. (include area code) 432-571-7800	8. Well Name and No. Mallon 34 Federal No. 19
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) SHL 2055 FNL & 790 FEL 34-19S-34E BHL 1980 FNL & 330 FWL	9. API Well No. 30-025-39894
	10. Field and Pool, or Exploratory Area Quail Ridge; Bone Spring, S
	11. County or Parish, State Lea County, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
☒ Notice of Intent	☐ Acidize ☐ Deepen ☐ Production (Start/Resume) ☐ Water Shut-Off
☐ Subsequent Report	☒ Alter Casing ☐ Fracture Treat ☐ Reclamation ☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair ☐ New Construction ☐ Recomplete ☒ Other <u>Change SHL</u>
	☐ Change Plans ☐ Plug and Abandon ☐ Temporarily Abandon
	☐ Convert to Injection ☐ Plug Back ☐ Water Disposal

13. Describe Proposed or Completed Operation (clearly state all pertinent details, included estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Cimarex has changed the SHL of the Mallon 34 Federal No. 19 because the previously approved new location (to avoid pits) @ 1650 FNL & 700 FEL was too close to a Targa pipeline that was built prior to us building our location. Please see new location and drilling plan below, as well as attached revised plats and preliminary directional survey.

Permitted Location (per sundry notice approved 12-7-10)

SHL 1650 FNL & 700 FEL
BHL 1980 FNL & 330 FWL

New Proposed Location

SHL 1690 FNL & 720 FEL
BHL 1980 FNL & 330 FWL

All aspects of casing program are the same as approved in Chg SHL sundry notice approved 12-7-10. KOP has changed to 10682 and EOC has changed to 11090 and TD has changed to 15072. Cement amounts have not changed. ROW not required for new location as no new access roads are to be built.

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Natalie Krueger

Signature

Title

Regulatory

Date

December 21, 2010

JAN 05 2011

PETROLEUM ENGINEER

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

/s/ Don Peterson

Title

FIELD MANAGER

Date

DEC 22 2010

Conditions of Approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

CARLSBAD FIELD OFFICE

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on reverse)

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

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

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102

Revised July 18, 2010

Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

RECEIVED
JAN 03 2011
HOBBSUCD

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-025-39894	Pool Code 50461	Pool Name Quail Ridge; Bone Spring, S
Property Code 29028	Property Name MALLON "34" FEDERAL	Well Number 19
OGRID No. 162683	Operator Name CIMAREX ENERGY CO. OF COLORADO	Elevation 3708'

Surface Location

UL or lot No. H	Section 34	Township 19 S	Range 34 E	Lot Idn	Feet from the 1690	North/South line NORTH	Feet from the 720	East/West line EAST	County LEA
--------------------	---------------	------------------	---------------	---------	-----------------------	---------------------------	----------------------	------------------------	---------------

Bottom Hole Location If Different From Surface

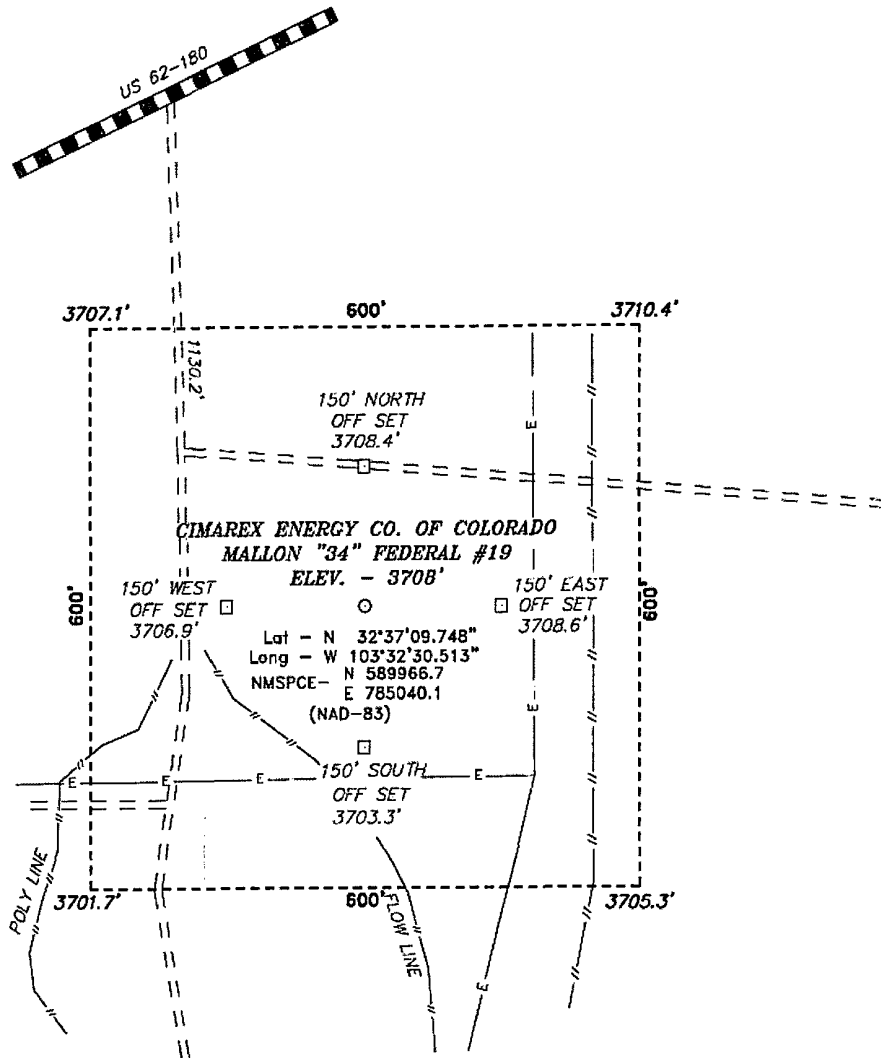
UL or lot No. E	Section 34	Township 19 S	Range 34 E	Lot Idn	Feet from the 1980	North/South line NORTH	Feet from the 330	East/West line WEST	County LEA
--------------------	---------------	------------------	---------------	---------	-----------------------	---------------------------	----------------------	------------------------	---------------

Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.
------------------------	-----------------	--------------------	-----------

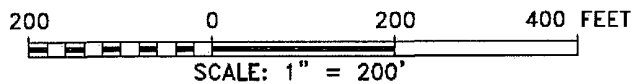
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	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 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. Signature: <u>Natalie Krueger</u> Date: <u>12/21/2010</u> Printed Name: <u>Natalie Krueger</u> Email Address: <u>nkrueger@cimarex.com</u> 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. Date Surveyed: <u>DECEMBER 15, 2010</u> Signature & Seal of Professional Surveyor: <u>GARY L. JONES</u> W.O. No. <u>23922</u> Certificate No. <u>Gary L. Jones 7977</u> BASIN SURVEYS <u>23922</u>
--	--

SECTION 34, TOWNSHIP 19 SOUTH, RANGE 34 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



AT MILE MARKER 79.7 ON US 62-180 TURN SOUTH
ON EXISTING ACCESS ROAD FOR 0.2 MILES TO
PROPOSED LOCATION.



CIMAREX ENERGY CO. OF COLORADO

REF: MALLON "34" FEDERAL #19 / WELL PAD TOPO

THE MALLON "34" FEDERAL #19 LOCATED 1690'

FROM THE NORTH LINE AND 720' FROM THE EAST LINE OF

SECTION 34, TOWNSHIP 19 SOUTH, RANGE 34 EAST,

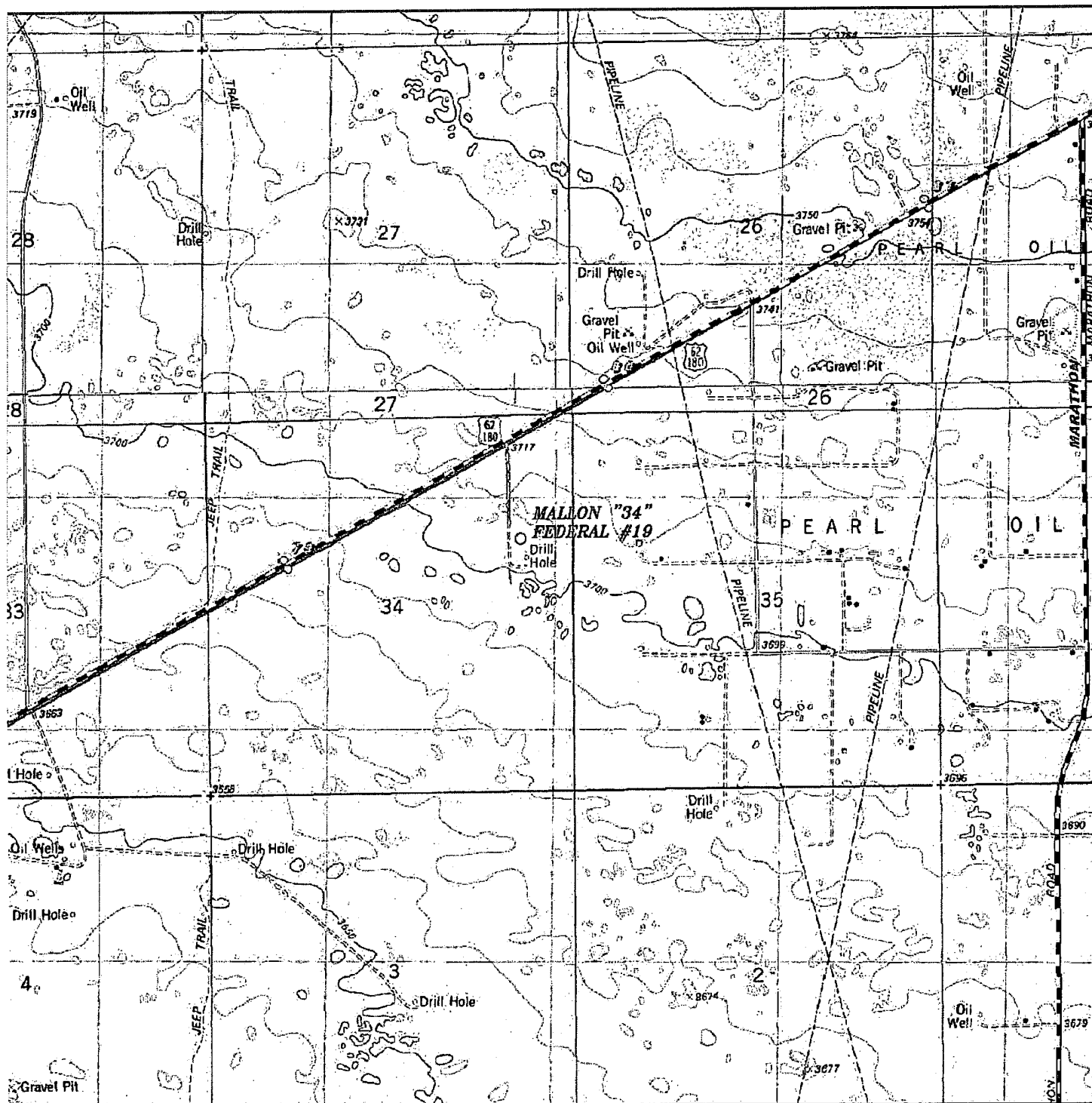
N.M.P.M., LEA COUNTY, NEW MEXICO.

BASIN SURVEYS P.O. BOX 1786—HOBBS, NEW MEXICO

Drawn By: J SMALL

Date: 12-16-2010	Disk: JMS 23922
------------------	-----------------

Sheet 1 of 1 Sheets



MALLON "34" FEDERAL #19
 Located 1690' FNL and 720' FEL
 Section 34, Township 19 South, Range 34 East,
 N.M.P.M., Lea County, New Mexico.

basin
surveys
 focused on excellence
 in the oilfield

P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (575) 393-7316 - Office
 (575) 392-2206 - Fax
 basinsurveys.com

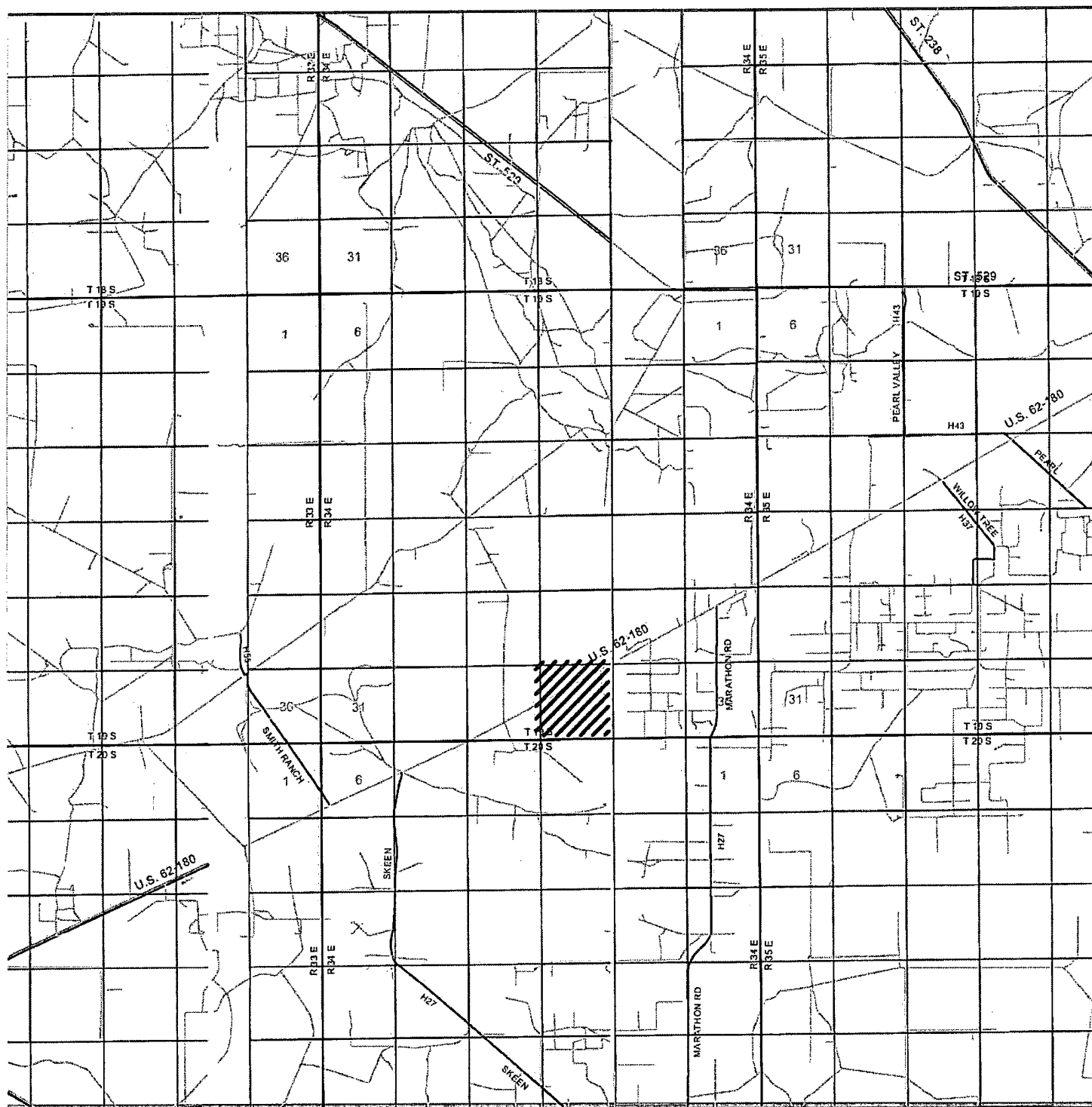
W.O. Number: JMS 23922

Survey Date: 12-15-2010

Scale: 1" = 2000'

Date: 12-16-2010

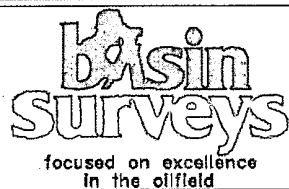
CIMAREX
ENERGY CO.
OF COLORADO



MALLON "34" FEDERAL #19

Located 1690' FNL and 720' FEL

Section 34, Township 19 South, Range 34 East,
N.M.P.M., Lea County, New Mexico.



P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number: JMS 23922

Survey Date: 12-15-2010

Scale: 1" = 2 Miles

Date: 12-16-2010

**CIMAREX
ENERGY CO.
OF COLORADO**



Cimarex Energy Co.

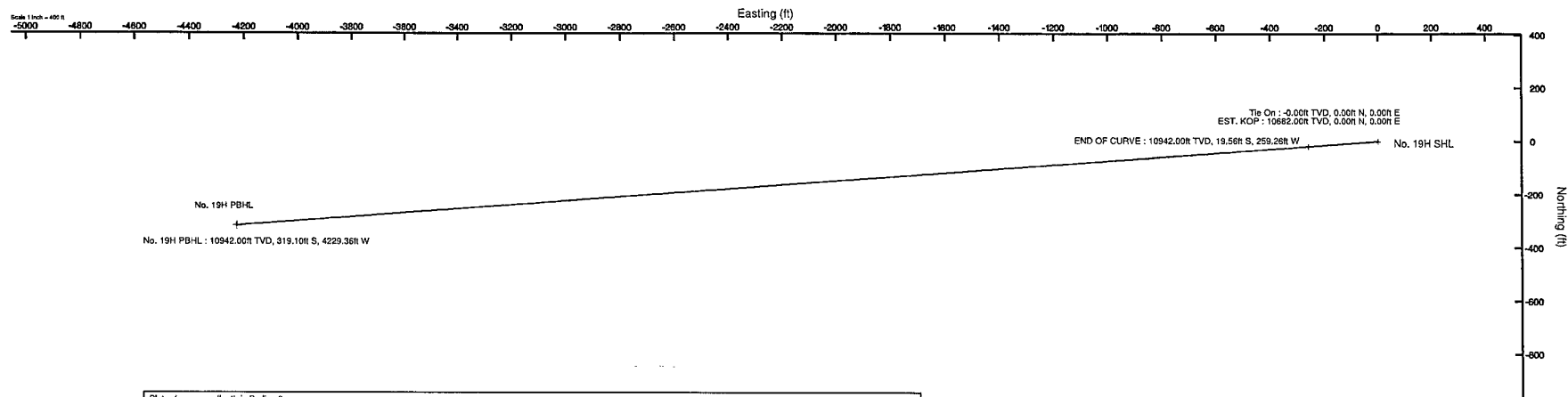
Location: Lea County, NM
Field: (Mallon) Sec 34, T19S, R34E
Facility: Mallon 34 Fed No. 19H

Slot: No. 19H SHL
Well: No. 19H
Wellbore: No. 19H PWB

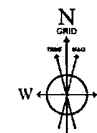
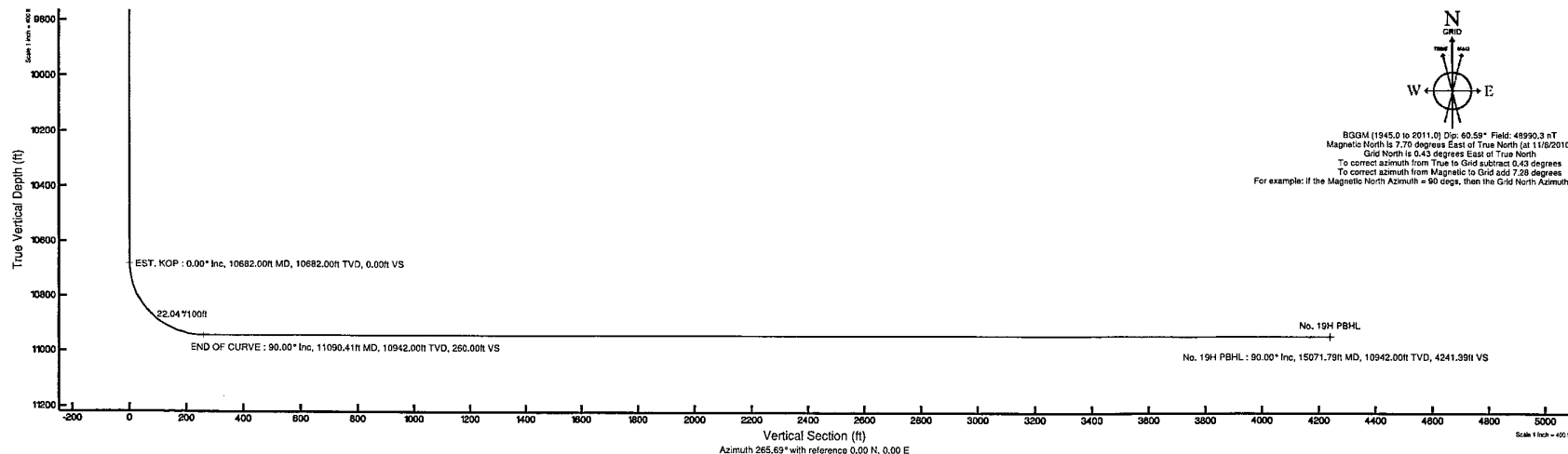


Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	265.685	0.00	0.00	0.00	0.00	0.00
EST. KOP	10682.00	0.000	265.685	10682.00	0.00	0.00	0.00	0.00
END OF CURVE	11090.41	90.000	265.685	10942.00	-19.56	-259.26	22.04	260.00
No. 19H PBHL	15071.79	90.000	265.685	10942.00	-319.10	-4229.36	0.00	4241.39



Plot reference wellpath is Prelim_3	Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
True vertical depths are referenced to Rig on No. 19H SHL (RT)	North Reference: Grid north
Measured depths are referenced to Rig on No. 19H SHL (RT)	Scale: True distance
Rig on No. 19H SHL (RT) to Mean Sea Level: 3708 feet	Depths are in feet
Mean Sea Level to Mud line (Facility: Mallon 34 Fed No. 19H): -3708 feet	Created by: gomeocr on 12/21/2010
Coordinates are in feet referenced to Slot	



BGMW (1945.0 to 2011.0) Dip: 60.59° Field: 48990.3 nT
Magnetic North is 7.70 degrees East of True North (as 1/10/2010)
Grid North is 0.43 degrees East of True North
To correct azimuth from True to Grid subtract 0.43 degrees
To correct azimuth from Magnetic to Grid add 7.28 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.28 = 97.28



Planned Wellpath Report

Prelim_3
Page 1 of 5



INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 19H SHL
Area	Lea County, NM	Well	No. 19H
Field	(Mallon) Sec 34, T19S, R34E	Wellbore	No. 19H PWB
Facility	Mallon 34 Fed No. 19H		

REPORT SETUP INFORMATION

Projection System	NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect@ 2.0
North Reference	Grid	User	Gomeoscr
Scale	0.999977	Report Generated	12/21/2010 at 8:43:45 AM
Convergence at slot	0.43° East	Database/Source file	WA Midland/No. 19H_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W
Facility Reference Pt			785040.10	589966.70	32°37'09.748"N	103°32'30.513"W
Field Reference Pt			780804.80	586972.60	32°36'40.432"N	103°33'20.286"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 19H SHL (RT) to Facility Vertical Datum	0.00ft
Horizontal Reference Pt	Slot	Rig on No. 19H SHL (RT) to Mean Sea Level	3708.00ft
Vertical Reference Pt	Rig on No. 19H SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 19H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	265.69°

RECEIVED

JAN 03 2011

HOBBSOCD



Planned Wellpath Report

Prelim_3
Page 2 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 19H SHL
Area	Lea County, NM	Well	No. 19H
Field	(Mallon) Sec 34, T19S, R34E	Wellbore	No. 19H PWB
Facility	Mallon 34 Fed No. 19H		

WELLPATH DATA (154 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	265.685	0.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	Tie On
100.00†	0.000	265.685	100.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
200.00†	0.000	265.685	200.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
300.00†	0.000	265.685	300.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
400.00†	0.000	265.685	400.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
500.00†	0.000	265.685	500.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
600.00†	0.000	265.685	600.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
700.00†	0.000	265.685	700.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
800.00†	0.000	265.685	800.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
900.00†	0.000	265.685	900.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
1000.00†	0.000	265.685	1000.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
1100.00†	0.000	265.685	1100.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
1200.00†	0.000	265.685	1200.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
1300.00†	0.000	265.685	1300.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
1400.00†	0.000	265.685	1400.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
1500.00†	0.000	265.685	1500.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
1600.00†	0.000	265.685	1600.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
1700.00†	0.000	265.685	1700.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
1800.00†	0.000	265.685	1800.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
1900.00†	0.000	265.685	1900.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
2000.00†	0.000	265.685	2000.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
2100.00†	0.000	265.685	2100.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
2200.00†	0.000	265.685	2200.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
2300.00†	0.000	265.685	2300.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
2400.00†	0.000	265.685	2400.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
2500.00†	0.000	265.685	2500.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
2600.00†	0.000	265.685	2600.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
2700.00†	0.000	265.685	2700.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
2800.00†	0.000	265.685	2800.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
2900.00†	0.000	265.685	2900.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
3000.00†	0.000	265.685	3000.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
3100.00†	0.000	265.685	3100.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
3200.00†	0.000	265.685	3200.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
3300.00†	0.000	265.685	3300.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
3400.00†	0.000	265.685	3400.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
3500.00†	0.000	265.685	3500.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
3600.00†	0.000	265.685	3600.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
3700.00†	0.000	265.685	3700.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
3800.00†	0.000	265.685	3800.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
3900.00†	0.000	265.685	3900.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
4000.00†	0.000	265.685	4000.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
4100.00†	0.000	265.685	4100.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
4200.00†	0.000	265.685	4200.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
4300.00†	0.000	265.685	4300.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
4400.00†	0.000	265.685	4400.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	



Planned Wellpath Report

Prelim_3

Page 3 of 5



**BAKER
HUGHES**

INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 19H SHL
Area	Lea County, NM	Well	No. 19H
Field	(Mallon) Sec 34, T19S, R34E	Wellbore	No. 19H PWB
Facility	Mallon 34 Fed No. 19H		

WELLPATH DATA (154 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4500.00†	0.000	265.685	4500.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
4600.00†	0.000	265.685	4600.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
4700.00†	0.000	265.685	4700.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
4800.00†	0.000	265.685	4800.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
4900.00†	0.000	265.685	4900.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
5000.00†	0.000	265.685	5000.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
5100.00†	0.000	265.685	5100.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
5200.00†	0.000	265.685	5200.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
5300.00†	0.000	265.685	5300.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
5400.00†	0.000	265.685	5400.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
5500.00†	0.000	265.685	5500.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
5600.00†	0.000	265.685	5600.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
5700.00†	0.000	265.685	5700.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
5800.00†	0.000	265.685	5800.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
5900.00†	0.000	265.685	5900.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
6000.00†	0.000	265.685	6000.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
6100.00†	0.000	265.685	6100.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
6200.00†	0.000	265.685	6200.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
6300.00†	0.000	265.685	6300.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
6400.00†	0.000	265.685	6400.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
6500.00†	0.000	265.685	6500.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
6600.00†	0.000	265.685	6600.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
6700.00†	0.000	265.685	6700.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
6800.00†	0.000	265.685	6800.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
6900.00†	0.000	265.685	6900.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
7000.00†	0.000	265.685	7000.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
7100.00†	0.000	265.685	7100.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
7200.00†	0.000	265.685	7200.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
7300.00†	0.000	265.685	7300.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
7400.00†	0.000	265.685	7400.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
7500.00†	0.000	265.685	7500.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
7600.00†	0.000	265.685	7600.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
7700.00†	0.000	265.685	7700.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
7800.00†	0.000	265.685	7800.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
7900.00†	0.000	265.685	7900.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
8000.00†	0.000	265.685	8000.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
8100.00†	0.000	265.685	8100.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
8200.00†	0.000	265.685	8200.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
8300.00†	0.000	265.685	8300.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
8400.00†	0.000	265.685	8400.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
8500.00†	0.000	265.685	8500.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
8600.00†	0.000	265.685	8600.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
8700.00†	0.000	265.685	8700.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
8800.00†	0.000	265.685	8800.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
8900.00†	0.000	265.685	8900.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	



Planned Wellpath Report

Prelim_3
Page 4 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 19H SHL
Area	Lea County, NM	Well	No. 19H
Field	(Mallon) Sec 34, T19S, R34E	Wellbore	No. 19H PWB
Facility	Mallon 34 Fed No. 19H		

WELLPATH DATA (154 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
9000.00†	0.000	265.685	9000.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
9100.00†	0.000	265.685	9100.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
9200.00†	0.000	265.685	9200.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
9300.00†	0.000	265.685	9300.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
9400.00†	0.000	265.685	9400.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
9500.00†	0.000	265.685	9500.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
9600.00†	0.000	265.685	9600.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
9700.00†	0.000	265.685	9700.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
9800.00†	0.000	265.685	9800.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
9900.00†	0.000	265.685	9900.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
10000.00†	0.000	265.685	10000.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
10100.00†	0.000	265.685	10100.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
10200.00†	0.000	265.685	10200.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
10300.00†	0.000	265.685	10300.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
10400.00†	0.000	265.685	10400.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
10500.00†	0.000	265.685	10500.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
10600.00†	0.000	265.685	10600.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	
10682.00	0.000	265.685	10682.00	0.00	0.00	0.00	785040.10	589966.70	32°37'09.748"N	103°32'30.513"W	0.00	EST. KOP
10700.00†	3.967	265.685	10699.99	0.62	-0.05	-0.62	785039.48	589966.65	32°37'09.748"N	103°32'30.520"W	22.04	
10800.00†	26.003	265.685	10795.99	26.32	-1.98	-26.25	785013.85	589964.72	32°37'09.731"N	103°32'30.820"W	22.04	
10900.00†	48.040	265.685	10875.34	86.16	-6.48	-85.92	784954.18	589960.22	32°37'09.690"N	103°32'31.518"W	22.04	
11000.00†	70.077	265.685	10926.44	171.40	-12.90	-170.92	784869.19	589953.80	32°37'09.633"N	103°32'32.512"W	22.04	
11090.41	90.000	265.685	10942.00	260.00	-19.56	-259.26	784780.84	589947.14	32°37'09.574"N	103°32'33.546"W	22.04	END OF CURVE
11100.00†	90.000	265.685	10942.00	269.59	-20.28	-268.83	784771.28	589946.42	32°37'09.567"N	103°32'33.658"W	0.00	
11200.00†	90.000	265.685	10942.00	369.59	-27.81	-368.55	784671.56	589938.89	32°37'09.500"N	103°32'34.824"W	0.00	
11300.00†	90.000	265.685	10942.00	469.59	-35.33	-468.26	784571.85	589931.37	32°37'09.433"N	103°32'35.991"W	0.00	
11400.00†	90.000	265.685	10942.00	569.59	-42.85	-567.98	784472.14	589923.85	32°37'09.366"N	103°32'37.157"W	0.00	
11500.00†	90.000	265.685	10942.00	669.59	-50.38	-667.70	784372.42	589916.32	32°37'09.299"N	103°32'38.323"W	0.00	
11600.00†	90.000	265.685	10942.00	769.59	-57.90	-767.41	784272.71	589908.80	32°37'09.232"N	103°32'39.490"W	0.00	
11700.00†	90.000	265.685	10942.00	869.59	-65.42	-867.13	784172.99	589901.28	32°37'09.165"N	103°32'40.656"W	0.00	
11800.00†	90.000	265.685	10942.00	969.59	-72.95	-966.84	784073.28	589893.75	32°37'09.098"N	103°32'41.823"W	0.00	
11900.00†	90.000	265.685	10942.00	1069.59	-80.47	-1066.56	783973.56	589886.23	32°37'09.030"N	103°32'42.989"W	0.00	
12000.00†	90.000	265.685	10942.00	1169.59	-87.99	-1166.28	783873.85	589878.71	32°37'08.963"N	103°32'44.156"W	0.00	
12100.00†	90.000	265.685	10942.00	1269.59	-95.52	-1265.99	783774.14	589871.18	32°37'08.896"N	103°32'45.322"W	0.00	
12200.00†	90.000	265.685	10942.00	1369.59	-103.04	-1365.71	783674.42	589863.66	32°37'08.829"N	103°32'46.489"W	0.00	
12300.00†	90.000	265.685	10942.00	1469.59	-110.56	-1465.43	783574.71	589856.14	32°37'08.762"N	103°32'47.655"W	0.00	
12400.00†	90.000	265.685	10942.00	1569.59	-118.09	-1565.14	783474.99	589848.61	32°37'08.695"N	103°32'48.822"W	0.00	
12500.00†	90.000	265.685	10942.00	1669.59	-125.61	-1664.86	783375.28	589841.09	32°37'08.628"N	103°32'49.988"W	0.00	
12600.00†	90.000	265.685	10942.00	1769.59	-133.14	-1764.58	783275.57	589833.57	32°37'08.561"N	103°32'51.154"W	0.00	
12700.00†	90.000	265.685	10942.00	1869.59	-140.66	-1864.29	783175.85	589826.04	32°37'08.493"N	103°32'52.321"W	0.00	
12800.00†	90.000	265.685	10942.00	1969.59	-148.18	-1964.01	783076.14	589818.52	32°37'08.426"N	103°32'53.487"W	0.00	
12900.00†	90.000	265.685	10942.00	2069.59	-155.71	-2063.73	782976.42	589811.00	32°37'08.359"N	103°32'54.654"W	0.00	
13000.00†	90.000	265.685	10942.00	2169.59	-163.23	-2163.44	782876.71	589803.47	32°37'08.292"N	103°32'55.820"W	0.00	
13100.00†	90.000	265.685	10942.00	2269.59	-170.75	-2263.16	782777.00	589795.95	32°37'08.225"N	103°32'56.987"W	0.00	
13200.00†	90.000	265.685	10942.00	2369.59	-178.28	-2362.88	782677.28	589788.43	32°37'08.158"N	103°32'58.153"W	0.00	



Planned Wellpath Report

Prelim_3
Page 5 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 19H SHL
Area	Lea County, NM	Well	No. 19H
Field	(Mallon) Sec 34, T19S, R34E	Wellbore	No. 19H PWB
Facility	Mallon 34 Fed No. 19H		

WELLPATH DATA (154 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13300.00†	90.000	265.685	10942.00	2469.59	-185.80	-2462.59	782577.57	589780.90	32°37'08.090"N	103°32'59.320"W	0.00	
13400.00†	90.000	265.685	10942.00	2569.59	-193.32	-2562.31	782477.85	589773.38	32°37'08.023"N	103°33'00.486"W	0.00	
13500.00†	90.000	265.685	10942.00	2669.59	-200.85	-2662.03	782378.14	589765.86	32°37'07.956"N	103°33'01.653"W	0.00	
13600.00†	90.000	265.685	10942.00	2769.59	-208.37	-2761.74	782278.43	589758.33	32°37'07.889"N	103°33'02.819"W	0.00	
13700.00†	90.000	265.685	10942.00	2869.59	-215.89	-2861.46	782178.71	589750.81	32°37'07.822"N	103°33'03.985"W	0.00	
13800.00†	90.000	265.685	10942.00	2969.59	-223.42	-2961.18	782079.00	589743.29	32°37'07.755"N	103°33'05.152"W	0.00	
13900.00†	90.000	265.685	10942.00	3069.59	-230.94	-3060.89	781979.28	589735.76	32°37'07.687"N	103°33'06.318"W	0.00	
14000.00†	90.000	265.685	10942.00	3169.59	-238.46	-3160.61	781879.57	589728.24	32°37'07.620"N	103°33'07.485"W	0.00	
14100.00†	90.000	265.685	10942.00	3269.59	-245.99	-3260.33	781779.85	589720.72	32°37'07.553"N	103°33'08.651"W	0.00	
14200.00†	90.000	265.685	10942.00	3369.59	-253.51	-3360.04	781680.14	589713.19	32°37'07.486"N	103°33'09.818"W	0.00	
14300.00†	90.000	265.685	10942.00	3469.59	-261.04	-3459.76	781580.43	589705.67	32°37'07.419"N	103°33'10.984"W	0.00	
14400.00†	90.000	265.685	10942.00	3569.59	-268.56	-3559.48	781480.71	589698.15	32°37'07.351"N	103°33'12.151"W	0.00	
14500.00†	90.000	265.685	10942.00	3669.59	-276.08	-3659.19	781381.00	589690.62	32°37'07.284"N	103°33'13.317"W	0.00	
14600.00†	90.000	265.685	10942.00	3769.59	-283.61	-3758.91	781281.28	589683.10	32°37'07.217"N	103°33'14.484"W	0.00	
14700.00†	90.000	265.685	10942.00	3869.59	-291.13	-3858.63	781181.57	589675.58	32°37'07.150"N	103°33'15.650"W	0.00	
14800.00†	90.000	265.685	10942.00	3969.59	-298.65	-3958.34	781081.86	589668.05	32°37'07.083"N	103°33'16.816"W	0.00	
14900.00†	90.000	265.685	10942.00	4069.59	-306.18	-4058.06	780982.14	589660.53	32°37'07.015"N	103°33'17.983"W	0.00	
15000.00†	90.000	265.685	10942.00	4169.59	-313.70	-4157.78	780882.43	589653.01	32°37'06.948"N	103°33'19.149"W	0.00	
15071.79	90.000	265.685	10942.00†	4241.39	-319.10	-4229.36	780810.84	589647.61	32°37'06.900"N	103°33'19.987"W	0.00	No. 19H PBHL

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 19H PBHL	15071.79	10942.00	-319.10	-4229.36	780810.84	589647.61	32°37'06.900"N	103°33'19.987"W	point

SURVEY PROGRAM Ref Wellbore: No. 19H PWB Ref Wellpath: Prelim_3

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	15071.79	NaviTrak (Standard)		No. 19H PWB