

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

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

Form C-144
June 1, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☒
Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

Operator: Cimarex Energy Co. of Colorado Telephone: 972-401-3111 e-mail address: zfarris@cimarex.com
Address: PO Box 140907, Irving, TX 75014-0907
Facility or well name: Bunker Hill 32 State Com No. 4 API #: 30-005-28025 U/L or Qtr/Qtr: P Sec: 32 T: 15S R: 31E
County: Chaves Latitude: 32° 57' 58.04 N Longitude: 103° 50' 11.97 W NAD: 1927 ☐ 1983 ☒
Surface Owner: Federal ☐ State ☐ Private ☒ Indian ☐

Pit	Below-grade tank	
Type: Drilling ☒ Production ☐ Disposal ☐ Workover ☐ Emergency ☐ Lined ☐ Unlined ☐ Liner type: Synthetic ☐ Thickness: _____ mil Clay ☐ Pit Volume: _____ bbl closed system, cuttings hauled	Volume: _____ bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes ☐ If not, explain why not. _____	
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.) <u>300'</u>	Less than 50 feet	(20 points)
	50 feet or more, but less than 100 feet	(10 points)
	100 feet or more	(0 points)
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes	(20 points)
	No	(0 points)
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet	(20 points)
	200 feet or more, but less than 1000 feet	(10 points)
	1000 feet or more	(0 points)
Ranking Score (Total Points)		0

If this is a pit closure: (1) Attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if you are burying in place) onsite ☐ offsite ☐ If offsite, name of facility: _____. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface _____ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Date: 05.06.08

Printed Name/Title: Zeno Farris - Manager Operations Administration Signature: Zeno Farris

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:

Printed Name/Title: [Signature] Signature: PETROLEUM ENGINEER Date: MAY 08 2008

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

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-005-28025	Pool Code /	Pool Name Abo Wildcat
Property Code 37156	Property Name BUNKER HILL "32" STATE COM	Well Number 4
OGRID No. 162683	Operator Name CIMAREX ENERGY CO. OF COLORADO	Elevation 4412'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	32	15 S	31 E		375	SOUTH	375	EAST	CHAVES

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	32	15 S	31 E		375	SOUTH	375	WEST	CHAVES

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

BOTTOM HOLE LOCATION Lat - N32°57'58.07" Long - W103°51'05.29" NMSPCE - N 715552.733 E 689122.627 (NAD-83)		SURFACE LOCATION Lat - N32°57'58.04" Long - W103°50'11.97" NMSPCE - N 715569.7 E 693665.1 (NAD-83)		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 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. <u>Zeno Farris</u> 05-05-08 Signature Date <u>Zeno Farris</u> Printed Name	
				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. APRIL 11 2008 Date Surveyed <u>Gary L. Jones</u> Signature & Seal Professional Surveyor Certificate No. Gary L. Jones 7977 HASIN SURVEYS	
VB-1226-0001	E0-8665-0002	VB-1226-0001			
375'	4542.5'	375'		SHL & Penetration Point Abo 375'	



Cimarex Energy Co. of Colorado

5215 North O'Connor Blvd. ♦ Suite 1500 ♦ Irving, TX 75039 ♦ (972) 401-3111 ♦ Fax (972) 443-6486

Mailing Address: P.O. Box 140907 ♦ Irving, TX 75014-0907

A subsidiary of Cimarex Energy Co. • A NYSE Listed Company • "XEC"

May 6, 2008

30-005-28025

Oil Conservation Division
District I Office
1625 N. French Drive
Hobbs, New Mexico 88240
Attn: Ms. Donna Mull

Re: Statewide Rule 118
Hydrogen Sulfide Gas Contingency Plan
Proposed Bunker Hill 32 State Com No. 4 Well

Dear Ms. Mull:

In accordance with NMAC 19.15.3.118 C. (1) governing the determination of the hydrogen sulfide concentration in gaseous mixtures in each of its operations, Cimarex Energy Co. of Colorado does not anticipate that there will be enough H₂S from the surface to the Abo formations to meet the OCD's minimum requirements for the submission of a contingency plan for the drilling and completion of the following test(s):

Bunker Hill 32 State Com No. 4
32-15S-31E
SHL 375' FSL & 375' FEL
BHL 375' FSL & 375' FWL
Chaves County, NM

If anything further is needed regarding this issue, or if you have any questions, please feel free to contact the undersigned at 972-443-6489.

Yours truly,

Zeno Farris
Manager Operations Administration

Prepared by Baker Hughes INTEQ
Software System: WellArchitect®2.0

Operator	Cimarex Energy Co
Area	Chaves County, NM
Field	(Bunker) Section 32, T15S, R31E
Facility	Bunker Hill 32 ST COM No 4
Slot	No. 4 SHL
Well	No 4
Wellbore	No 4 PWB
Wellpath	Preliminary
Sidetrack	(none)

Projection NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
 North Refe Grd
 Scale 0 999936
 Converger 0.27° East
 Software SWellArchitect®
 User Victor Hernandez
 Report Gen 4/24/2008 at 10:36:42 AM
 DataBase:// WA_Midland/ev7273.xml

WELLPAT	Local North [ft]	Local East [ft]	Grid East [ft]	Grid North [ft]	Latitude	Longitude
Slot Locati	0	0	693665 1	715569 7	32°57'58.0	103°50'11.973"W
Facility Ref			693665 1	715569 7	32°57'58.0	103°50'11.973"W
Field Refer			689064 1	718476 1	32°58'27.0	103°51'05.822"W

Calculator Minimum curvature
 Horizontal Facility Center
 Vertical Re Rig on No. 4 SHL (RT)
 MD Refere Rig on No. 4 SHL (RT)
 Field Vertic Mean Sea Level
 Rig on No. 18 00ft
 Rig on No. 4430.00ft
 Facility Ver 0 00ft
 Section Or 0 00ft
 Section Or 0.00ft
 Section Az 269.79°

WELL	PATH	DATA Wellbore: No 4 PWB			Wellpath: Preliminary			† = interpolated/extrapolated station				Comments
		MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	DLS [°/100ft]	
		0	0	269.786	0	0	0	0	693665.1	715569.7	0	Tie On
†		100	0	269.786	100	0	0	0	693665.1	715569.7	0	
†		200	0	269.786	200	0	0	0	693665.1	715569.7	0	
†		300	0	269.786	300	0	0	0	693665.1	715569.7	0	
†		400	0	269.786	400	0	0	0	693665.1	715569.7	0	
†		500	0	269.786	500	0	0	0	693665.1	715569.7	0	
†		600	0	269.786	600	0	0	0	693665.1	715569.7	0	
†		700	0	269.786	700	0	0	0	693665.1	715569.7	0	
†		800	0	269.786	800	0	0	0	693665.1	715569.7	0	
†		900	0	269.786	900	0	0	0	693665.1	715569.7	0	
†		1000	0	269.786	1000	0	0	0	693665.1	715569.7	0	
†		1100	0	269.786	1100	0	0	0	693665.1	715569.7	0	
†		1200	0	269.786	1200	0	0	0	693665.1	715569.7	0	
†		1300	0	269.786	1300	0	0	0	693665.1	715569.7	0	
†		1400	0	269.786	1400	0	0	0	693665.1	715569.7	0	
†		1500	0	269.786	1500	0	0	0	693665.1	715569.7	0	
†		1600	0	269.786	1600	0	0	0	693665.1	715569.7	0	
†		1700	0	269.786	1700	0	0	0	693665.1	715569.7	0	
†		1800	0	269.786	1800	0	0	0	693665.1	715569.7	0	
†		1900	0	269.786	1900	0	0	0	693665.1	715569.7	0	
†		2000	0	269.786	2000	0	0	0	693665.1	715569.7	0	
†		2100	0	269.786	2100	0	0	0	693665.1	715569.7	0	
†		2200	0	269.786	2200	0	0	0	693665.1	715569.7	0	
†		2300	0	269.786	2300	0	0	0	693665.1	715569.7	0	
†		2312	0	269.786	2312	0	0	0	693665.1	715569.7	0	YATES

†	2400	0	269.786	2400	0	0	0	693665 1	715569.7	0	
†	2500	0	269.786	2500	0	0	0	693665 1	715569.7	0	
†	2600	0	269.786	2600	0	0	0	693665.1	715569.7	0	
†	2700	0	269.786	2700	0	0	0	693665 1	715569.7	0	
†	2800	0	269.786	2800	0	0	0	693665.1	715569.7	0	
†	2900	0	269.786	2900	0	0	0	693665 1	715569.7	0	
†	3000	0	269.786	3000	0	0	0	693665 1	715569.7	0	
†	3090	0	269.786	3090	0	0	0	693665.1	715569.7	0	QUEEN
†	3100	0	269.786	3100	0	0	0	693665 1	715569.7	0	
†	3200	0	269.786	3200	0	0	0	693665 1	715569.7	0	
†	3300	0	269.786	3300	0	0	0	693665 1	715569.7	0	
†	3400	0	269.786	3400	0	0	0	693665 1	715569.7	0	
†	3500	0	269.786	3500	0	0	0	693665.1	715569.7	0	
†	3600	0	269.786	3600	0	0	0	693665.1	715569.7	0	
†	3700	0	269.786	3700	0	0	0	693665 1	715569.7	0	
†	3800	0	269.786	3800	0	0	0	693665.1	715569.7	0	
†	3900	0	269.786	3900	0	0	0	693665 1	715569.7	0	
†	3940	0	269.786	3940	0	0	0	693665.1	715569.7	0	SAN ANDRES
†	4000	0	269.786	4000	0	0	0	693665.1	715569.7	0	
†	4100	0	269.786	4100	0	0	0	693665 1	715569.7	0	
†	4200	0	269.786	4200	0	0	0	693665 1	715569.7	0	
†	4300	0	269.786	4300	0	0	0	693665.1	715569.7	0	
†	4400	0	269.786	4400	0	0	0	693665.1	715569.7	0	
†	4500	0	269.786	4500	0	0	0	693665.1	715569.7	0	
†	4600	0	269.786	4600	0	0	0	693665.1	715569.7	0	
†	4700	0	269.786	4700	0	0	0	693665 1	715569.7	0	
†	4800	0	269.786	4800	0	0	0	693665 1	715569.7	0	
†	4900	0	269.786	4900	0	0	0	693665.1	715569.7	0	
†	5000	0	269.786	5000	0	0	0	693665 1	715569.7	0	
†	5100	0	269.786	5100	0	0	0	693665 1	715569.7	0	
†	5200	0	269.786	5200	0	0	0	693665 1	715569.7	0	
†	5300	0	269.786	5300	0	0	0	693665 1	715569.7	0	
†	5400	0	269.786	5400	0	0	0	693665.1	715569.7	0	
†	5500	0	269.786	5500	0	0	0	693665 1	715569.7	0	
†	5600	0	269.786	5600	0	0	0	693665 1	715569.7	0	
†	5700	0	269.786	5700	0	0	0	693665 1	715569.7	0	
†	5800	0	269.786	5800	0	0	0	693665 1	715569.7	0	
†	5900	0	269.786	5900	0	0	0	693665 1	715569.7	0	
†	6000	0	269.786	6000	0	0	0	693665.1	715569.7	0	
†	6100	0	269.786	6100	0	0	0	693665 1	715569.7	0	
†	6200	0	269.786	6200	0	0	0	693665.1	715569.7	0	
†	6300	0	269.786	6300	0	0	0	693665.1	715569.7	0	
†	6400	0	269.786	6400	0	0	0	693665 1	715569.7	0	
†	6500	0	269.786	6500	0	0	0	693665 1	715569.7	0	
†	6600	0	269.786	6600	0	0	0	693665 1	715569.7	0	
†	6700	0	269.786	6700	0	0	0	693665 1	715569.7	0	
†	6800	0	269.786	6800	0	0	0	693665 1	715569.7	0	
†	6900	0	269.786	6900	0	0	0	693665 1	715569.7	0	
†	7000	0	269.786	7000	0	0	0	693665.1	715569.7	0	
†	7100	0	269.786	7100	0	0	0	693665.1	715569.7	0	
†	7200	0	269.786	7200	0	0	0	693665.1	715569.7	0	
†	7300	0	269.786	7300	0	0	0	693665 1	715569.7	0	
†	7340	0	269.786	7340	0	0	0	693665.1	715569.7	0	ABO SHALE
†	7400	0	269.786	7400	0	0	0	693665 1	715569.7	0	
†	7500	0	269.786	7500	0	0	0	693665 1	715569.7	0	
†	7600	0	269.786	7600	0	0	0	693665 1	715569.7	0	
†	7700	0	269.786	7700	0	0	0	693665.1	715569.7	0	
†	7800	0	269.786	7800	0	0	0	693665 1	715569.7	0	
†	7900	0	269.786	7900	0	0	0	693665.1	715569.7	0	
†	8000	0	269.786	8000	0	0	0	693665 1	715569.7	0	
†	8100	0	269.786	8100	0	0	0	693665 1	715569.7	0	
†	8200	0	269.786	8200	0	0	0	693665 1	715569.7	0	
†	8300	0	269.786	8300	0	0	0	693665.1	715569.7	0	
†	8395	0	269.786	8395	0	0	0	693665 1	715569.7	0	KOP
†	8400	1.5	269.786	8400	0.07	0	-0.07	693665	715569.7	30	
†	8500	31.5	269.786	8494.79	28.14	-0.11	-28.14	693637	715569.6	30	
†	8600	61.5	269.786	8562.84	99.86	-0.37	-99.85	693565.3	715569.3	30	
†	8675.59	84.176	269.786	8585	171.6	-0.64	-171.6	693493.5	715569.1	30	LOWER ABO DOLOMITE
†	8694.52	89.855	269.786	8585.99	190.5	-0.71	-190.5	693474.6	715569	30	EOC
†	8700	89.855	269.786	8586	195.99	-0.73	-195.98	693469.1	715569	0	
†	8800	89.855	269.786	8586.25	295.99	-1.11	-295.98	693369.1	715568.6	0	
†	8900	89.855	269.786	8586.51	395.99	-1.48	-395.98	693269.1	715568.2	0	
†	9000	89.855	269.786	8586.76	495.98	-1.85	-495.98	693169.2	715567.9	0	

†	9100	89 855	269 786	8587.01	595.98	-2.23	-595 98	693069 2	715567 5	0
†	9200	89 855	269.786	8587.26	695.98	-2 6	-695 98	692969 2	715567.1	0
†	9300	89 855	269 786	8587.52	795 98	-2 97	-795.98	692869 2	715566 7	0
†	9400	89 855	269.786	8587 77	895 98	-3 35	-895.98	692769 2	715566 4	0
†	9500	89 855	269 786	8588.02	995 98	-3 72	-995 98	692669 2	715566	0
†	9600	89 855	269 786	8588 28	1095.98	-4.09	-1095 98	692569 2	715565.6	0
†	9700	89.855	269.786	8588.53	1195 98	-4.47	-1195 97	692469 2	715565 2	0
†	9800	89 855	269.786	8588 78	1295 98	-4 84	-1295 97	692369.2	715564 9	0
†	9900	89 855	269.786	8589.04	1395.98	-5 21	-1395 97	692269 2	715564.5	0
†	10000	89 855	269 786	8589.29	1495.98	-5.59	-1495 97	692169 2	715564.1	0
†	10100	89.855	269.786	8589 54	1595 98	-5 96	-1595.97	692069 2	715563 7	0
†	10200	89 855	269 786	8589 8	1695 98	-6 33	-1695 97	691969.2	715563.4	0
†	10300	89.855	269.786	8590.05	1795 98	-6 71	-1795.97	691869 3	715563	0
†	10400	89 855	269 786	8590 3	1895.98	-7.08	-1895.97	691769.3	715562 6	0
†	10500	89.855	269.786	8590.55	1995 98	-7 46	-1995 97	691669 3	715562.3	0
†	10600	89.855	269.786	8590.81	2095.98	-7 83	-2095 97	691569 3	715561 9	0
†	10700	89 855	269 786	8591.06	2195.98	-8.2	-2195 96	691469 3	715561 5	0
†	10800	89.855	269.786	8591.31	2295 98	-8 58	-2295 96	691369 3	715561.1	0
†	10900	89 855	269 786	8591 57	2395 98	-8 95	-2395 96	691269.3	715560 8	0
†	11000	89 855	269.786	8591.82	2495.98	-9 32	-2495 96	691169 3	715560 4	0
†	11100	89.855	269.786	8592.07	2595 98	-9 7	-2595 96	691069.3	715560	0
†	11200	89.855	269.786	8592.33	2695 98	-10 07	-2695 96	690969 3	715559 6	0
†	11300	89 855	269 786	8592.58	2795 98	-10 44	-2795 96	690869 3	715559.3	0
†	11400	89 855	269.786	8592.83	2895 98	-10 82	-2895 96	690769 3	715558 9	0
†	11500	89 855	269 786	8593.09	2995.98	-11.19	-2995 96	690669 3	715558.5	0
†	11600	89 855	269 786	8593 34	3095 98	-11 56	-3095.96	690569 4	715558 1	0
†	11700	89 855	269 786	8593.59	3195 98	-11 94	-3195 95	690469.4	715557 8	0
†	11800	89.855	269 786	8593 84	3295 98	-12 31	-3295 95	690369.4	715557 4	0
†	11900	89.855	269.786	8594.1	3395.98	-12.68	-3395 95	690269 4	715557	0
†	12000	89.855	269.786	8594.35	3495 98	-13.06	-3495 95	690169 4	715556.6	0
†	12100	89 855	269.786	8594 6	3595 98	-13 43	-3595 95	690069 4	715556 3	0
†	12200	89.855	269 786	8594.86	3695 97	-13 81	-3695 95	689969 4	715555 9	0
†	12300	89 855	269 786	8595.11	3795.97	-14.18	-3795.95	689869 4	715555 5	0
†	12400	89 855	269 786	8595 36	3895 97	-14 55	-3895 95	689769 4	715555.2	0
†	12500	89 855	269 786	8595 62	3995 97	-14 93	-3995.95	689669 4	715554 8	0
†	12600	89.855	269.786	8595.87	4095.97	-15.3	-4095 94	689569 4	715554 4	0
†	12700	89 855	269 786	8596 12	4195 97	-15 67	-4195.94	689469.4	715554	0
†	12800	89.855	269 786	8596 38	4295 97	-16 05	-4295 94	689369 4	715553 7	0
†	12900	89 855	269 786	8596.63	4395.97	-16.42	-4395 94	689269 5	715553.3	0
†	13000	89 855	269 786	8596 88	4495 97	-16 79	-4495.94	689169 5	715552.9	0
	13046.83	89.855	269.786	8597	4542.81	-16.97	-4542 77	689122 6	715552.7	0 No. 4 BHL 1

TARGETS

Name	MD	TVD	North	East	Grid East	Grid North	Latitude	Longitude	Shape	Comment	Design Comments
	[ft]	[ft]	[ft]	[ft]	[srv ft]	[srv ft]					
(1) No. 4 B	13046.83	8597	-16.97	-4542.77	689122.6	715552.7	32°57'58.0	103°51'05. point			

SURVEY PROGRAM Ref Wellbore No 4 PWB Ref Wellpath. Preliminary

Start MD End MD Pos Unc M Log Name/ Wellbore

[ft] [ft] 18 13046 83 NaviTrak (Standard) No. 4 PWB



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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 4H SHL
Area	Chaves County, NM	Well	No. 4H
Field	(Bunker) Section 32, T15S, R31E	Wellbore	No. 4H PWB
Facility	Bunker Hill 32 ST COM No. 4H		

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	Victor Hernandez
Scale	0.999936	Report Generated	4/24/2008 at 10:39:36 AM
Convergence at slot	0.27° East	Database/Source file	WA_Midland/No. 4H_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	693665.10	715569.70	32°57'58.036"N	103°50'11.973"W
Facility Reference Pt			693665.10	715569.70	32°57'58.036"N	103°50'11.973"W
Field Reference Pt			689064.10	718476.10	32°58'27.005"N	103°51'05.822"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 4H SHL (RT) to Facility Vertical Datum	18.00ft
Horizontal Reference Pt	Facility Center	Rig on No. 4H SHL (RT) to Mean Sea Level	4430.00ft
Vertical Reference Pt	Rig on No. 4H SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 4H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	269.79°



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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 4H SHL
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Field	(Bunker) Section 32, T15S, R31E	Wellbore	No. 4H PWB
Facility	Bunker Hill 32 ST COM No. 4H		

WELLPATH DATA (55 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00	0.000	269.786	0.00	0.00	0.00	0.00	0.00	Tie On
2312.00†	0.000	269.786	2312.00	0.00	0.00	0.00	0.00	YATES
3090.00†	0.000	269.786	3090.00	0.00	0.00	0.00	0.00	QUEEN
3940.00†	0.000	269.786	3940.00	0.00	0.00	0.00	0.00	SAN ANDRES
7340.00†	0.000	269.786	7340.00	0.00	0.00	0.00	0.00	ABO SHALE
8395.00	0.000	269.786	8395.00	0.00	0.00	0.00	0.00	KOP
8495.00†	30.000	269.786	8490.49	25.59	-0.10	-25.59	30.00	
8595.00†	60.000	269.786	8560.40	95.49	-0.36	-95.49	30.00	
8675.59†	84.176	269.786	8585.00	171.60	-0.64	-171.60	30.00	LOWER ABO DOLOMITE
8694.52†	89.855	269.786	8585.99	190.50	-0.71	-190.50	30.00	EOC
8695.00†	89.855	269.786	8585.99	190.99	-0.71	-190.98	0.00	
8795.00†	89.855	269.786	8586.24	290.99	-1.09	-290.98	0.00	
8895.00†	89.855	269.786	8586.49	390.99	-1.46	-390.98	0.00	
8995.00†	89.855	269.786	8586.75	490.98	-1.83	-490.98	0.00	
9095.00†	89.855	269.786	8587.00	590.98	-2.21	-590.98	0.00	
9195.00†	89.855	269.786	8587.25	690.98	-2.58	-690.98	0.00	
9295.00†	89.855	269.786	8587.51	790.98	-2.95	-790.98	0.00	
9395.00†	89.855	269.786	8587.76	890.98	-3.33	-890.98	0.00	
9495.00†	89.855	269.786	8588.01	990.98	-3.70	-990.98	0.00	
9595.00†	89.855	269.786	8588.26	1090.98	-4.08	-1090.98	0.00	
9695.00†	89.855	269.786	8588.52	1190.98	-4.45	-1190.97	0.00	
9795.00†	89.855	269.786	8588.77	1290.98	-4.82	-1290.97	0.00	
9895.00†	89.855	269.786	8589.02	1390.98	-5.20	-1390.97	0.00	
9995.00†	89.855	269.786	8589.28	1490.98	-5.57	-1490.97	0.00	
10095.00†	89.855	269.786	8589.53	1590.98	-5.94	-1590.97	0.00	
10195.00†	89.855	269.786	8589.78	1690.98	-6.32	-1690.97	0.00	
10295.00†	89.855	269.786	8590.04	1790.98	-6.69	-1790.97	0.00	
10395.00†	89.855	269.786	8590.29	1890.98	-7.06	-1890.97	0.00	
10495.00†	89.855	269.786	8590.54	1990.98	-7.44	-1990.97	0.00	
10595.00†	89.855	269.786	8590.79	2090.98	-7.81	-2090.97	0.00	
10695.00†	89.855	269.786	8591.05	2190.98	-8.18	-2190.96	0.00	
10795.00†	89.855	269.786	8591.30	2290.98	-8.56	-2290.96	0.00	
10895.00†	89.855	269.786	8591.55	2390.98	-8.93	-2390.96	0.00	
10995.00†	89.855	269.786	8591.81	2490.98	-9.30	-2490.96	0.00	
11095.00†	89.855	269.786	8592.06	2590.98	-9.68	-2590.96	0.00	
11195.00†	89.855	269.786	8592.31	2690.98	-10.05	-2690.96	0.00	
11295.00†	89.855	269.786	8592.57	2790.98	-10.42	-2790.96	0.00	
11395.00†	89.855	269.786	8592.82	2890.98	-10.80	-2890.96	0.00	
11495.00†	89.855	269.786	8593.07	2990.98	-11.17	-2990.96	0.00	
11595.00†	89.855	269.786	8593.33	3090.98	-11.55	-3090.96	0.00	
11695.00†	89.855	269.786	8593.58	3190.98	-11.92	-3190.95	0.00	
11795.00†	89.855	269.786	8593.83	3290.98	-12.29	-3290.95	0.00	
11895.00†	89.855	269.786	8594.08	3390.98	-12.67	-3390.95	0.00	
11995.00†	89.855	269.786	8594.34	3490.98	-13.04	-3490.95	0.00	
12095.00†	89.855	269.786	8594.59	3590.98	-13.41	-3590.95	0.00	



Planned Wellpath Report

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 4H SHL
Area	Chaves County, NM	Well	No. 4H
Field	(Bunker) Section 32, T15S, R31E	Wellbore	No. 4H PWB
Facility	Bunker Hill 32 ST COM No. 4H		

WELLPATH DATA (55 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
12195.00†	89.855	269.786	8594.84	3690.97	-13.79	-3690.95	0.00	
12295.00†	89.855	269.786	8595.10	3790.97	-14.16	-3790.95	0.00	
12395.00†	89.855	269.786	8595.35	3890.97	-14.53	-3890.95	0.00	
12495.00†	89.855	269.786	8595.60	3990.97	-14.91	-3990.95	0.00	
12595.00†	89.855	269.786	8595.86	4090.97	-15.28	-4090.94	0.00	
12695.00†	89.855	269.786	8596.11	4190.97	-15.65	-4190.94	0.00	
12795.00†	89.855	269.786	8596.36	4290.97	-16.03	-4290.94	0.00	
12895.00†	89.855	269.786	8596.62	4390.97	-16.40	-4390.94	0.00	
12995.00†	89.855	269.786	8596.87	4490.97	-16.77	-4490.94	0.00	
13046.83	89.855	269.786	8597.00 ¹	4542.81	-16.97	-4542.77	0.00	No. 4H BHL

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 4H BHL	13046.83	8597.00	-16.97	-4542.77	689122.63	715552.73	32°57'58.077"N	103°51'05.292"W	point

SURVEY PROGRAM Ref Wellbore: No. 4H PWB Ref Wellpath: Preliminary

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
18.00	13046.83	NaviTrak (Standard)		No. 4H PWB

