

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division

Form W-2
Rev. 4/1/83

EAG0897

Type or print only

API No. 42-475-35281				7. RRC District No. 08	
Oil Well Potential Test, Completion or Recompletion Report, and Log				8. RRC Lease No. TBA	
				9. Well No. 2H	
1. FIELD NAME (as per RRC Records or Wildcat) Two Georges (Bone Spring)		2. LEASE NAME Cimarex University 18-38		10. County of well site Ward	
3. OPERATOR'S NAME (Exactly as shown on P-5, Organization Report) CIMAREX ENERGY CO. OF COLORADO		RRC Operator No. 153429		11. Purpose of filing	
4. ADDRESS P.O. Box 140907 Irving, TX 75014				Initial Potential <input checked="" type="checkbox"/>	
5. If Operator has changed within the last 60 days, name the former operator				Retest <input type="checkbox"/>	
6a. Location (Section, Block, and Survey) 38 18 University Lands		6b. Distance and direction to nearest town in this county. 25.4 Miles NW of Monahans, TX		Reclass <input type="checkbox"/>	
12. If workover or reclass, give former field (with reservoir) & gas ID or oil lease no. FIELD & RESERVOIR		GAS ID or OIL LEASE #	Oil - O Gas - G	WELL NO.	
				Well record only <input type="checkbox"/> (explain in Remarks)	
13. Type of electric or other log run			14. Completion or recompletion date 1/24/08		

SECTION I: POTENTIAL TEST DATA

IMPORTANT: Test should be for 24 hours unless otherwise specified in field rules.

15. Date of test 2/10/08	16. No. of hours tested 24	17. Production method (Flowing, Gas Lift, Jetting, Pumping - Size & Type of pump) Flow			18. Choke size 20/64
19. Production during Test Period	Oil - BBLS 292	Gas - MCF 448	Water - BBLS 203	Gas - Oil Ratio 1534.2	Flowing Tubing Pressure 480 PSI
20. Calculated 24-Hour Rate	Oil - BBLS 292	Gas - MCF 448	Water - BBLS 203	Oil Gravity - API - 60° 43.3	Casing Pressure 480 PSI
21. Was swab used during this test? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		22. Oil produced prior to test (New & Reworked wells)			23. Injection Gas-Oil Ratio
REMARKS: Drill new Horizontal oil well.					

INSTRUCTIONS: File an original and one copy of the completed Form W-2 in the appropriate RRC District Office within 30 days after completing a well and within 10 days after a potential test. If an operator does not properly report the results of a potential test within the 10-day period, the effective date of the allowable assigned to the well will not extend back more than 10 days before the W-2 was received in the District Office. (Statewide Rules 16 and 51) To report a completion or recompletion, fill in both sides of this form. To report a retest, fill in only the front side.

WELL TESTER'S CERTIFICATION

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I conducted or supervised this test by observation of (a) meter readings or (b) the top and bottom gauges of each tank into which production was run during the test. I further certify that the potential test data shown above is true, correct, and complete, to the best of my knowledge.

Signature: Well Tester

Name of Company

RRC Representative

OPERATOR'S CERTIFICATION

I declare under the penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Shaun Ebert

Typed or printed name of operator's representative

469-420-2799

Telephone: Area Code Number

Date: **3 / 17 / 08**
mo. day year

Regulatory Analyst

Title of Person

Signature

SECTION II								DATA ON WELL COMPLETION AND LOG (Not Required on Retest)			
24. Type of Completion New Well <input checked="" type="checkbox"/> Deepening <input type="checkbox"/> Plug Back <input type="checkbox"/> Other <input type="checkbox"/>						25. Permit to Drill, Plug Back or, Deepen DATE 9/17/07 PERMIT NO. 646044					
26. Notice of Intention to Drill this well was filed in Name of Cimarex Energy Co. of Colorado						Rule 37 Exception		CASE NO.			
27. Number of producing wells on this lease in this field (reservoir) including this well 1			28. Total number of acres in this lease 480			Water injection Permit PERMIT NO.		Salt Water Disposal Permit PERMIT NO.			
29. Date Plug Back, Deepening, Workover or Drilling Operations: 9/30/07		Commenced 10/27/07		Completed 0		30. Distance to nearest well. Same Lease & Reservoir 0		Other PERMIT NO.			
31. Location of well, relative to nearest lease boundaries of lease on which this well is located						660 Feet from North Line and 1210 Feet from East Line of the Cimarex University 18-38 Lease					
32. Elevation (DF, RKB, RT, GR, ETC.) 2796 GR						33. Was directional survey made other than inclination (W-12)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
34. Top of Pay 9612		35. Total Depth 15525 MD		36. P. B. Depth		37. Surface Casing Determined by: Field Rules <input checked="" type="checkbox"/>		Recommendation of T.D.W.R. Railroad Commission (Special) <input type="checkbox"/>			
38. Is well multiple completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		39. If multiple completion, list all reservoir names (completions in this well) and Oil Lease or Gas ID No. <div style="text-align: center;">FIELD & RESERVOIR</div>						40. Intervals Drilled by:			
41. Name of Drilling Contractor Cactus # 123		<div style="display: flex; justify-content: space-between;"> <div>GAS ID or OIL LEASE #</div> <div>Oil-O Gas-G</div> <div>WELL #</div> </div>						42. Is Cementing Affidavit Attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
43. CASING RECORD (Report All Strings Set in Well)											
CASING SIZE	WT #/FT.	DEPTH SET	MULTISTAGE TOOL DEPTH	TYPE & AMOUNT CEMENT (sacks)	HOLE SIZE	TOP OF CEMENT	SLURRY VOL. cu. ft.				
13 3/8	48#	850		740 sx Prem	17 1/2	Surface	1188				
9 5/8	40#	5220		1675 sx Prem	12 1/4	Surface	4006.05				
8 3/4	26#	11675		1260 sx Super	8 3/4	Surface	2574				

44. LINER RECORD				
Size	TOP	Bottom	Sacks Cement	Screen
3 1/2	11207 MD	15313 MD	Not Cemented	

45. TUBING RECORD			46. Producing Interval (this completion) Indicate depth of perforation or open hole	
Size	Depth Set	Packer Set	From	To
2 7/8	10572 MD	10320 MD	11237 MD	15525 MD
			From	To
			From	To

47. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
Depth Interval	Amount and Kind of Material Used
11237-15525 MD	Acid w/ 5000 Gal 15% HCL, Frac w/ 382490 Gal + 380000 #

48. FORMATION RECORD (LIST DEPTHS OF PRINCIPAL GEOLOGICAL MARKERS AND FORMATION TOPS)			
Formations	Depth	Formations	Depth
Bone Spring	9612		

REMARKS Drill new Horizontal oil well.

CIBP @ 11253 KOP @ 11237

Final Bottom Hole location 2200 FSL 660 FWL

Total Depth 15525 MD, 11373 TVD 3 1/2 Liner Not cemented

**CERTIFICATE OF COMPLIANCE
AND TRANSPORTATION AUTHORITY**

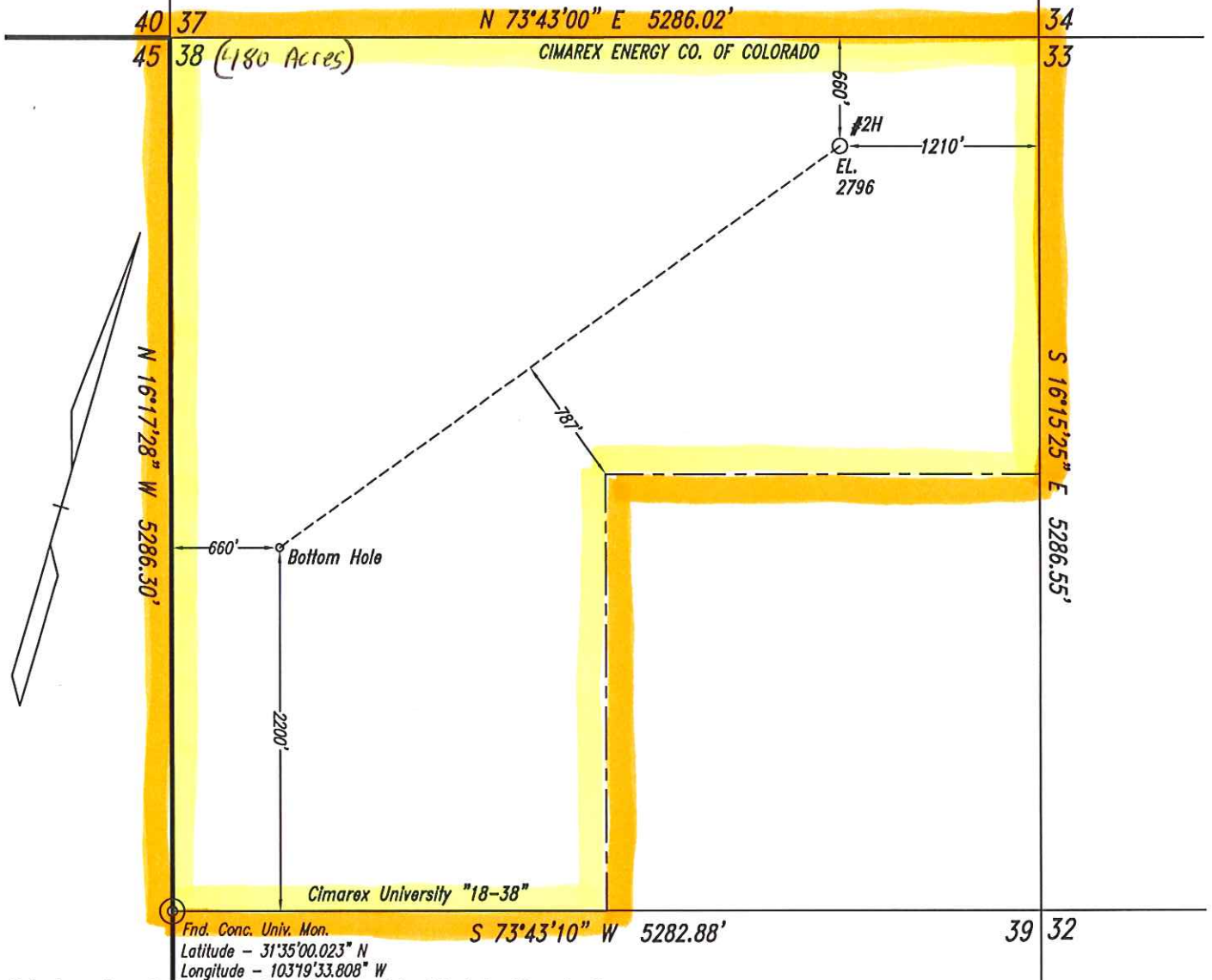
P-4

5/02
EAG0502

READ INSTRUCTIONS ON BACK

1. Field name exactly as shown on proration schedule Two Georges (Bone Spring)		2. Lease name as shown on proration schedule Cimarex University 18-38				
3. Current operator name exactly as shown on P-5 Organization Report Cimarex Energy Co. of Colorado		4. Operator P-5 no. 153429	5. Oil Lse/Gas ID no.	6. County Ward	7. RRC district 08	
8. Operator address including city, state, and zip code P.O. Box 140907 Irving, TX 75014		9. Well no(s) (see instruction E) 2H				
		10. Classification <input checked="" type="checkbox"/> Oil <input type="checkbox"/> Gas <input type="checkbox"/> Other (see instruction A)		11. Effective date 12/1/07		
12. Purpose of Filing. (Complete section a or b below.) (See instructions B and G) a. Change of: <input type="checkbox"/> operator <input type="checkbox"/> oil or condensate gatherer <input type="checkbox"/> gas gatherer <input type="checkbox"/> gas purchaser <input type="checkbox"/> gas purchaser system code <input type="checkbox"/> field name from: _____ <input type="checkbox"/> lease name from: _____ OR b. New RRC Number for: <input checked="" type="checkbox"/> oil lease <input type="checkbox"/> gas well Due to: <input checked="" type="checkbox"/> new completion or recompletion <input type="checkbox"/> reclass oil to gas <input type="checkbox"/> reclass gas to oil <input type="checkbox"/> other well (specify) _____ <input type="checkbox"/> consolidation, unitization, or subdivision (oil lease only)						
13. Authorized GAS WELL GAS or CASINGHEAD GAS Gatherer(s) and/or Purchaser(s). (See Instruction G).						
Gatherer	Purchaser	Name of GAS WELL GAS or CASINGHEAD GAS Gatherer(s) or Purchaser(s) As Indicated in Columns to the Left (Attach an additional sheet in same format if more space is needed)		Purchaser's RRC Assigned System Code	Percent of Take	Full-well stream
14. Authorized OIL or CONDENSATE Gatherer(s). (See instruction G).						
Name of OIL or CONDENSATE Gatherer(s) - List Highest Volume Gatherer First (Attach an additional sheet in same format if more space is needed)					Percent of Take	RRC USE ONLY Reviewer's initials: _____ Approval date: _____
Shell Trading (US) Company					100	
15. PREVIOUS OPERATOR CERTIFICATION FOR CHANGE OF OPERATOR P-4 FILING. Being the PREVIOUS OPERATOR, I certify that operating responsibility for the well(s) designated in this filing, located on the subject lease has been transferred in its entirety to the above named Current Operator. I understand, as Previous Operator, that designation of the above named operator as Current Operator is not effective until this certificate is approved by the Commission.						
Name of Previous Operator Name (print) Title			Signature <input type="checkbox"/> Authorized Employee of previous operator <input type="checkbox"/> Authorized agent of previous operator (see instruction G) Date Phone with area code			
16. CURRENT OPERATOR CERTIFICATION. By signing this certificate as the Current Operator, I certify that all statements on this form are true and correct and I acknowledge responsibility for the regulatory compliance of the subject lease including plugging of well(s) pursuant to Rule 14. I further acknowledge that I assume responsibility for the physical operation, control, and proper plugging of each well designated in this filing. I also acknowledge that I will remain designated as the Current Operator until a new certificate designating a new Current Operator is approved by the Commission.						
Shaun Ebert Name (print) Regulatory Analyst Title			Signature <input checked="" type="checkbox"/> Authorized Employee of current operator <input type="checkbox"/> Authorized agent of current operator (see instruction G) 12/28/07 Date			
E-mail Address (optional)			469-420-2799 Phone with area code			

Block 18 University Lands



Note: Survey Reconstruction filed in the Office of Luchini and Mertz Land Surveying Company.

Note: All bearings and coordinates shown are based on the Texas Coordinate System of 1927, Central Zone.

A combined grid factor of 0.9998018 must be divided into Section Line distances to obtain a true horizontal distance.

Note: Example: (S-99999) indicates General Land Office file number.

Note: NAD '27 Coordinates & Latitude/Longitude on well location in Section 38.

Note: Well location is approximately 25.4 miles west-northwest of Monahans.

#2H (Surface Location)

X: 1070805.16 Latitude - 31°35'55.957\" N
Y: 715197.40 Longitude - 103°19'05.326\" W

Bottom Hole

X: 1068207.13 Latitude - 31°35'22.750\" N
Y: 711910.76 Longitude - 103°19'34.333\" W

Railroad Commission Permit Plat



Steven L. Prewit
Revised: February 5, 2008

September 7, 2007

070907D1

CIMAREX ENERGY CO. OF COLORADO
Cimarex University "18-38" Lease
W/2 & NE/4 of
Section 38, Block 18,
University Lands
Ward County, Texas

Scale: 1" = 1000'



RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form W-12
(1-1-71)
FOD1296

INCLINATION REPORT (One Copy Must Be Filed With Each Completion Report)		6. RRC District <div style="text-align: center; font-size: 1.2em;">08</div>
1. FIELD NAME (as per RRC Records or Wildcat) <i>Two Wells (Boat Springs)</i>		7. RRC Lease Number. (Oil completions only)
2. LEASE NAME <i>Cimarron University 18-38</i>		8. Well Number <div style="text-align: center; font-size: 1.2em;">2H</div>
3. OPERATOR <i>Cimarex Energy Company of Colorado</i>		9. RRC Identification Number (Gas completions only)
4. ADDRESS P.O. Box 140907 Irving, TX 75014		10. County <div style="text-align: center; font-size: 1.2em;">Ward</div>
5. LOCATION (Section, Block, and Survey) Sec 38, Blk 18		

RECORD OF INCLINATION

*11. Measured Depth (feet)	12. Course Length (Hundreds of feet)	*13. Angle of Inclination (Degrees)	14. Displacement per Hundred Feet (Sine of Angle x100)	15. Course Displacement (feet)	16. Accumulative Displacement (feet)
364	3.64	3/4	1.3090	4.76	4.76
848	4.84	1/4	0.4363	2.11	6.88
1342	4.94	1	1.7452	8.62	15.50
1850	5.08	1	1.7452	8.87	24.36
2376	5.26	2	3.4899	18.36	42.72
2854	4.78	1 5/6	3.2109	15.35	58.07
3326	4.72	1 2/5	2.4258	11.45	69.52
3803	4.77	7/9	1.3439	6.41	75.93
4308	5.05	2	3.4551	17.45	93.38
4815	5.07	1 3/7	2.4956	12.65	106.03
5671	8.56	3/4	1.2915	11.06	117.08
6180	5.09	3/4	1.3090	6.66	123.75
6692	5.12	1/4	0.4712	2.41	126.16
7195	5.03	5/7	1.2566	6.32	132.48
7684	4.89	5/8	1.0821	5.29	137.77

If additional space is needed, use the reverse side of this form.

17. Is any information shown on the reverse side of this form? ☒ yes ☐ no
18. Accumulative total displacement of well bore at total depth of _____ feet = _____ feet.
- *19. Inclination measurements were made in - ☐ Tubing ☐ Casing ☐ Open hole ☒ Drill Pipe
20. Distance from surface location of well to the nearest lease line 660 feet.
21. Minimum distance to lease line as prescribed by field rules..... 467 feet.
22. Was the subject well at any time intentionally deviated from the vertical in any manner whatsoever? No

(If the answer to the above question is "yes," attach written explanation of the circumstances.)

INCLINATION DATA CERTIFICATION I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have personal knowledge of the inclination data and facts placed on both sides of this form and that such data and facts are true, correct, and complete to the best of my knowledge. This certification covers all data as indicated by asterisks (*) by the item numbers on this form. <div style="text-align: center; font-size: 1.5em;"> </div> Signature of Authorized Representative Ron W. Tyson, Jr. V.P. Operations Name of Person and Title (type or print) Cactus Drilling Company, L.L.C. Name of Company Telephone: <u>405.577.5347</u> <div style="text-align: center;">Area Code</div>	OPERATOR CERTIFICATION I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have personal knowledge of all information presented in this report, and that all data presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers all data and information presented herein except inclination data as indicated by asterisks (*) by the item numbers on this form. <div style="text-align: center; font-size: 1.5em;"> </div> Signature of Authorized Representative Shawn Ebert Regulatory Analyst Name of Person and Title (type or print) Cimarron Energy Co. of Colorado Operator Telephone: <u>469-420-2799</u> <div style="text-align: center;">Area Code</div>
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Railroad Commission Use Only:

Approved By: _____ Title: _____ Date: _____

* Designates items certified by company that conducted the inclination surveys.

RECORD OF INCLINATION (Continued from reverse side)

[illegible]

If additional space is needed, attach separate sheet and check here. ☐

REMARKS:

- INSTRUCTIONS -

An inclination survey made by persons or concerns approved by the Commission shall be filed on a form prescribed by the Commission for each well drilled or deepened with rotary tools or when, as a result of any operation, the course of the well is changed. No inclination survey is required on wells that are drilled and completed as dry holes that are plugged and abandoned. (Inclination surveys are required on re-entry of abandoned wells.) Inclination surveys must be made in accordance with the provisions of Statewide Rule 11.

This report shall be filed in the District Office of the Commission for the district in which the well is drilled, by attaching one copy to each appropriate completion for the well. (except Plugging Report)

The Commission may require the submittal of the original charts, graphs, or discs, resulting from the surveys.

Cementer: Fill in shaded areas

Operator: Fill in other items

Form W-15
Cementing Report
Rev. 4/1/83
HAL1199

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division

1. Operator's Name (As Shown on Form P-5, Organization Report) <i>Cimarex Energy Co. of Colorado</i>	2. RRC Operator No. <i>153429</i>	3. RRC District No. <i>08</i>	4. County of Well Site <i>Ward</i>
5. Field Name (Wildcat or Exactly as Shown on RRC Records) <i>Two Georges C Bone Spring</i>	6. API No. <i>42-475-35281</i>	7. Drilling Permit No. <i>646044</i>	
8. Lease Name <i>CIMAREX UNIVERSITY 18-38</i>	9. Rule 37 Case No.	10. Oil Lease/Gas ID No.	11. Well No. <i>2H</i>

CASING CEMENTING DATA:		SURFACE CASING	INTER-MEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
				Single String	Multiple Parallel Strings	Tool	Shoe
12. Cementing Date		<i>10/1/2007</i>					
13. *Drilled hole size		<i>17 1/2</i>					
*Est. % wash or hole enlargement		<i>50%</i>					
14. Size of casing (in. O.D.)		<i>13 3/8</i>					
15. Top of liner (ft)		<i>—</i>					
16. Setting depth (ft)		<i>850</i>					
17. Number of centralizers used		<i>10</i>					
18. Hrs. waiting on cement before drill-out		<i>30</i>					
1st Slurry	19. API cement used: No. of sacks ▶	<i>400</i>					
	Class ▶	<i>HES Lt. Prem</i>					
	Additives ▶	<i>See Remarks</i>					
2nd Slurry	No. of sacks ▶	<i>340</i>					
	Class ▶	<i>Prem Plus</i>					
	Additives ▶	<i>1.6% CC</i>					
3rd Slurry	No. of sacks ▶						
	Class ▶						
	Additives ▶						
1st	20. Slurry pumped: Volume (cu.ft.) ▶	<i>732</i>					
	Height (ft.) ▶	<i>1054</i>					
2nd	Volume (cu.ft.) ▶	<i>456</i>					
	Height (ft.) ▶	<i>656</i>					
3rd	Volume (cu.ft.) ▶						
	Height (ft.) ▶						
Total	Volume (cu.ft.) ▶	<i>1188</i>					
	Height (ft.) ▶	<i>1710</i>					
21. Was cement circulated to ground surface (or bottom of cellar) outside casing?		<i>YES</i>					
22. Remarks <i>Cement Add: Lead Slurry; 3% Salt; .125lbm Poly-E-Flake</i>				Sales Order <i>5388085</i> Customer Name <i>CIMAREX ENERGY CO</i> Lease <i>University 18-38</i> Well Number <i>2H</i> Ward <i>County</i>			

OVER ►

Cementor: Fill in shaded areas
Operator: Fill in other items

Form W-15
Cementing Report
Rev 4/1/83
HAL1199

RAILROAD COMMISSION OF TEXAS

Oil and Gas Division

1. Operator's Name (As Shown on Form P-5, Organization Report) <i>Cimarex Energy Co. of Colorado</i>	2. RRC Operator No. <i>153429</i>	3. RRC District No. <i>08</i>	4. County of Well Site <i>Ward</i>
5. Field Name (Wildcat or Exactly as Shown on RRC Records) <i>Two Brothers (Bone Spring)</i>	6. API No. <i>42-475-35281</i>	7. Drilling Permit No. <i>646 094</i>	
8. Lease Name <i>Cimarex University 18-38</i>	9. Rule 37 Case No.	10. Oil Lease/Gas ID No.	11. Well No. <i>ZH</i>

CASING CEMENTING DATA:		SURFACE CASING	INTER-MEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
				Single String	Multiple Parallel Strings	Tool	Shoe
12. Cementing Date			<i>10/8/2007</i>				
13. *Drilled hole size			<i>12 1/4</i>				
*Est. % wash or hole enlargement			<i>825%</i>				
14. Size of casing (in. O.D.)			<i>9 5/8</i>				
15. Top of liner (ft)			<i>-</i>				
16. Setting depth (ft)			<i>5220</i>				
17. Number of centralizers used			<i>10</i>				
18. Hrs. waiting on cement before drill-out			<i>35</i>				
1st Slurry	19. API cement used: No. of sacks ▶		<i>1425</i>				
	Class ▶		<i>Interfill C</i>				
	Additives ▶		<i>None</i>				
2nd Slurry	No. of sacks ▶		<i>250</i>				
	Class ▶		<i>Prem Plus</i>				
	Additives ▶		<i>None</i>				
3rd Slurry	No. of sacks ▶		<i>140</i>				
	Class ▶		<i>Prem Plus</i>				
	Additives ▶		<i>None</i>				
1st	20. Slurry pumped: Volume (cu.ft.) ▶		<i>3491.25</i>				
	Height (ft.) ▶		<i>11147.56</i>				
2nd	Volume (cu.ft.) ▶		<i>330</i>				
	Height (ft.) ▶		<i>941.94</i>				
3rd	Volume (cu.ft.) ▶		<i>184.8</i>				
	Height (ft.) ▶		<i>590.07</i>				
Total	Volume (cu.ft.) ▶		<i>4006.05</i>				
	Height (ft.) ▶		<i>12679.57</i>				
21. Was cement circulated to ground surface (or bottom of cellar) outside casing?			<i>YES</i>				
22. Remarks CIRCULATED 65 SKS OF 3RD SLURRY (TOP-OUT) CEMENT TO SURFACE				Sales Order 5411444 Customer Name CIMAREX ENERGY CO Lease University 18-38 Well Number #2H Ward County			

Cementer: Fill in shaded areas
Operator: Fill in other items

Form W-15
Cementing Report
Rev. 4/1/83
HAL1199

RAILROAD COMMISSION OF TEXAS

Oil and Gas Division

1. Operator's Name (As Shown on Form P-5, Organization Report) <i>Cimarex Energy Co. of Colorado</i>	2. RRC Operator No. <i>153429</i>	3. RRC District No. <i>08</i>	4. County of Well Site <i>Ward</i>
5. Field Name (Wildcat or Exactly as Shown on RRC Records) <i>Two Georges (Bone Spring)</i>	6. API No. <i>42-475-35281</i>		7. Drilling Permit No. <i>646044</i>
8. Lease Name <i>Cimarex University 18-38</i>	9. Rule 37 Case No.	10. Oil Lease/Gas ID No.	11. Well No. <i>2H</i>

CASING CEMENTING DATA:		SURFACE CASING	INTER-MEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
				Single String	Multiple Parallel Strings	Tool	Shoe
12. Cementing Date				10/26/2007			
13. *Drilled hole size				8 3/4			
*Est. % wash or hole enlargement				25%			
14. Size of casing (in. O.D.)				7"			
15. Top of liner (ft)				—			
16. Setting depth (ft)				11675			
17. Number of centralizers used				20			
18. Hrs. waiting on cement before drill-out				—			
1st Slurry	19. API cement used: No. of sacks ▶			620			
	Class ▶			interfill-h			
	Additives ▶			seeremarks			
2nd Slurry	No. of sacks ▶			640			
	Class ▶			super h			
	Additives ▶			seeremarks			
3rd Slurry	No. of sacks ▶						
	Class ▶						
	Additives ▶						
1st	20. Slurry pumped: Volume (cu.ft.) ▶			1544			
	Height (ft.) ▶			10271			
2nd	Volume (cu.ft.) ▶			1030			
	Height (ft.) ▶			6852			
3rd	Volume (cu.ft.) ▶						
	Height (ft.) ▶						
Total	Volume (cu.ft.) ▶			2574			
	Height (ft.) ▶			17123			
21. Was cement circulated to ground surface (or bottom of cellar) outside casing?				no			
22. Remarks pump lead slurry 620sks with interfill h 5% hr-601 3lbm pheno seal .125lbm poly-e-flake pump tail slurry 640 sks with super h 5%halad .25% d-air 4% cfr-3 1lbm salt 5lbm gilsonite .125lbm pol-e-flake .4% hr						Sales Order 5439554 Customer Name CIMAREX ENERGY CO Lease University 18-38 Well Number 2H Ward County	

OVER ►



Gyrodatta Incorporated
3811 S. Co. Rd. 1285
Odessa, TX. 79765

432/561-8458
Fax: 432/563-7982

Date: January 4, 2008

Cimarex
5215 N O' Connor Blvd
Suite 1500
Irving, Texas 75039

Attn: Regulatory Dept.

Re: Cimarex University 18-38 Well No. 2H
Ward County, Texas

Please find enclosed a copy of the information filed with the Railroad Commission on the above referenced well.

If any additional information is required, please feel free to contact me.

Sincerely,

A handwritten signature in purple ink, appearing to read "Jena Tumlin".

Jena Tumlin
Operations

Enclosure

gyro/data

Gyrodata Incorporated
3811 S. Co. Rd. 1285
Odessa, TX. 79765

432/561-8458
Fax: 432/563-7982

Date: January 4, 2008

**Railroad Commission of Texas
Oil & Gas Division
P.O. Box 12967
Capitol Station
Austin, Texas 78711**

Attn: Ms. Diane Crum

**RE:
Cimarex Energy Co. of Colorado
Cimarex University '18-38' Well No. 2H
RRC Lease/Gas ID No. Not Assigned
Two Georges (Bone Spring), Wildcat, War-wink, W. (Wolfcamp)
University Lands, Abstract Not Assigned
Ward County, Texas
API No. 42-475-35281**

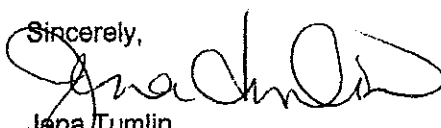
Ms. Crum,

Enclosed, please find the original and one copy of the survey performed on the referenced well by Gyrodata, Inc. (P-5 No. 339713). Other information required by your office is as follows:

<u>Name & Title</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates</u> <u>Performed</u>	<u>Type of</u> <u>Survey</u>
James King Surveyor	Original Hole	Surface - 11300'	11/15/07	Rate Gyroscopic

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in the case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Sincerely,



Jena Tumlin
Operations
Enclosure

A Gyrodata Directional Survey

for

CIMAREX ENERGY

Lease: Cimarex University 18-38 Well: No. 2h, 7" Casing
Location: Crane Truck, Ward County, Texas

Job Number: MD1107G_385

Run Date: 11/15/2007 8:12:39 PM

Surveyor: James King

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 31.598740 deg. N Longitude: 103.318220 deg. E

Azimuth Correction:

Gyro: 1.54000 deg East to Grid North

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

A Gyrodata Directional Survey

Cimarex Energy

Lease: Cimarex University 18-38 Well: No. 2h, 7" Casing

Location: Crane Truck, Ward County, Texas

Job Number: MD1107G_385

MEASURED DEPTH feet	I N C L deg.	A Z I M U T H deg.	B O R E H O L E B E A R I N G deg. min.	D O G L E G S E V E R I T Y deg./ 100 ft.	V E R T I C A L D E P T H feet	C L O S U R E D I S T. A Z I M U T H feet deg.	H O R I Z O N T A L C O O R D I N A T E S feet
0.00	0.00	0.00	N 0 0 E	0.00	0.00	0.0 0.0	0.00 N 0.00 E
0-11300 FT RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 7" CASING ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO GROUND LEVEL							
100.00	0.05	75.76	N 75 45 E	0.05	100.00	0.0 75.8	0.01 N 0.04 E
200.00	0.23	231.49	S 51 29 W	0.28	200.00	0.1 214.4	0.10 S 0.07 W
300.00	0.35	241.55	S 61 33 W	0.13	300.00	0.6 233.0	0.38 S 0.50 W
400.00	0.30	232.17	S 52 10 W	0.07	400.00	1.2 235.0	0.69 S 0.98 W
500.00	0.40	276.66	N 83 20 W	0.28	500.00	1.7 242.2	0.81 S 1.54 W
600.00	0.25	238.18	S 58 11 W	0.26	599.99	2.3 246.9	0.88 S 2.07 W
700.00	0.09	84.56	N 84 34 E	0.34	699.99	2.4 245.5	0.99 S 2.17 W
800.00	0.17	60.08	N 60 5 E	0.09	799.99	2.2 245.1	0.91 S 1.96 W
900.00	0.23	84.38	N 84 23 E	0.10	899.99	1.8 243.5	0.82 S 1.64 W
1000.00	0.24	86.80	N 86 48 E	0.01	999.99	1.5 237.4	0.79 S 1.23 W
1100.00	0.40	78.89	N 78 54 E	0.17	1099.99	1.0 224.1	0.71 S 0.69 W
1200.00	0.28	97.81	S 82 11 E	0.16	1199.99	0.7 188.4	0.67 S 0.10 W
1300.00	0.20	110.02	S 69 59 E	0.10	1299.99	0.8 158.2	0.77 S 0.31 E
1400.00	0.17	135.26	S 44 45 E	0.08	1399.99	1.1 148.4	0.93 S 0.57 E
1500.00	0.35	104.55	S 75 27 E	0.22	1499.99	1.5 138.8	1.12 S 0.98 E
1600.00	0.47	91.73	S 88 16 E	0.15	1599.98	2.1 125.6	1.20 S 1.68 E
1700.00	0.60	68.91	N 68 54 E	0.25	1699.98	2.8 111.7	1.03 S 2.59 E
1800.00	0.78	62.89	N 62 53 E	0.19	1799.97	3.7 98.2	0.53 S 3.68 E
1900.00	0.90	70.13	N 70 8 E	0.16	1899.96	5.0 89.5	0.05 N 5.02 E
2000.00	1.03	73.08	N 73 5 E	0.14	1999.95	6.6 85.0	0.58 N 6.62 E

A Gyrodata Directional Survey

Cinrax Energy

Lease: Cinrax University 18-38 Well: No. 2h, 7" Casing

Location: Crane Truck, Ward County, Texas

Job Number: MD1107G_385

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	BORE HOLE BEARING deg. min.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
2100.00	1.25	67.17	N 67 10 E	0.24	2099.93	8.6 81.6	1.26 N 8.49 E
2200.00	1.26	67.56	N 67 34 E	0.01	2199.90	10.7 78.7	2.10 N 10.51 E
2300.00	1.18	46.17	N 46 10 E	0.46	2299.88	12.7 75.2	3.24 N 12.27 E
2400.00	1.51	49.28	N 49 17 E	0.34	2399.85	14.8 71.1	4.81 N 14.01 E
2500.00	1.53	49.01	N 49 0 E	0.02	2499.82	17.3 67.8	6.54 N 16.01 E
2600.00	1.54	45.83	N 45 50 E	0.09	2599.78	19.8 65.1	8.36 N 17.99 E
2700.00	1.70	51.89	N 51 53 E	0.23	2699.74	22.6 63.1	10.21 N 20.12 E
2800.00	1.73	56.13	N 56 8 E	0.13	2799.70	25.5 62.0	11.97 N 22.54 E
2900.00	1.69	62.00	N 62 0 E	0.18	2899.65	28.5 61.7	13.50 N 25.09 E
3000.00	1.87	61.89	N 61 54 E	0.19	2999.60	31.6 61.7	14.96 N 27.84 E
3100.00	2.05	54.67	N 54 40 E	0.31	3099.55	35.0 61.4	16.77 N 30.74 E
3200.00	2.01	49.77	N 49 46 E	0.18	3199.48	38.5 60.5	18.94 N 33.54 E
3300.00	1.70	64.54	N 64 32 E	0.57	3299.43	41.7 60.2	20.71 N 36.22 E
3400.00	1.34	45.40	N 45 24 E	0.62	3399.40	44.3 60.0	22.16 N 38.38 E
3500.00	1.05	13.60	N 13 36 E	0.71	3499.38	46.1 58.8	23.87 N 39.43 E
3600.00	0.56	6.06	N 6 3 E	0.50	3599.37	47.0 57.5	25.26 N 39.70 E
3700.00	0.28	62.38	N 62 23 E	0.47	3699.36	47.6 57.1	25.86 N 39.96 E
3800.00	0.49	78.12	N 78 7 E	0.23	3799.36	48.2 57.3	26.06 N 40.60 E
3900.00	0.58	83.35	N 83 21 E	0.10	3899.36	49.1 57.7	26.20 N 41.52 E
4000.00	1.30	80.80	N 80 48 E	0.73	3999.34	50.6 58.5	26.44 N 43.14 E
4100.00	2.36	79.60	N 79 36 E	1.06	4099.29	53.6 59.7	27.00 N 46.29 E
4200.00	2.22	78.10	N 78 6 E	0.15	4199.21	57.4 61.1	27.77 N 50.21 E
4300.00	2.03	69.29	N 69 18 E	0.38	4299.14	61.0 61.8	28.80 N 53.76 E
4400.00	1.45	67.42	N 67 25 E	0.58	4399.09	64.0 62.1	29.91 N 56.59 E

A Gyrodata Directional Survey

Cinrax Energy

Lease: Cinrax University 18-38 Well: No. 2h, 7" Casing

Location: Crane Truck, Ward County, Texas

Job Number: MD1107G_385

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	BORE HOLE BEARING deg. min.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
4500.00	1.35	63.70	N 63 42 E	0.14	4499.07	66.4 62.3	30.91 N 58.81 E
4600.00	1.17	61.48	N 61 29 E	0.18	4599.04	68.6 62.3	31.92 N 60.76 E
4700.00	1.25	54.17	N 54 10 E	0.18	4699.02	70.7 62.1	33.05 N 62.54 E
4800.00	1.31	62.58	N 62 35 E	0.20	4798.99	73.0 62.0	34.21 N 64.44 E
4900.00	1.61	59.70	N 59 42 E	0.31	4898.96	75.5 62.0	35.45 N 66.67 E
5000.00	1.51	74.61	N 74 37 E	0.42	4998.92	78.2 62.2	36.51 N 69.15 E
5100.00	1.32	84.75	N 84 45 E	0.31	5098.89	80.5 62.7	36.96 N 71.57 E
5200.00	0.60	101.56	S 78 26 E	0.76	5198.88	82.0 63.2	36.96 N 73.23 E
5300.00	0.46	81.74	N 81 44 E	0.23	5298.88	82.8 63.5	36.91 N 74.14 E
5400.00	0.49	102.13	S 77 52 E	0.17	5398.87	83.5 63.8	36.88 N 74.96 E
5500.00	0.65	120.74	S 59 16 E	0.24	5498.87	84.2 64.3	36.50 N 75.86 E
5600.00	0.50	123.16	S 56 50 E	0.14	5598.86	84.7 64.9	35.97 N 76.71 E
5700.00	0.35	135.59	S 44 25 E	0.18	5698.86	85.1 65.3	35.51 N 77.30 E
5800.00	0.28	161.58	S 18 25 E	0.16	5798.86	85.1 65.7	35.06 N 77.59 E
5900.00	0.20	118.67	S 61 20 E	0.19	5898.86	85.2 65.9	34.74 N 77.82 E
6000.00	0.23	135.71	S 44 17 E	0.07	5998.86	85.4 66.2	34.52 N 78.11 E
6100.00	0.32	161.97	S 18 2 E	0.15	6098.86	85.4 66.5	34.10 N 78.34 E
6200.00	0.32	197.30	S 17 18 W	0.19	6198.85	85.2 66.8	33.57 N 78.34 E
6300.00	0.14	251.79	S 71 47 W	0.26	6298.85	84.9 66.9	33.27 N 78.15 E
6400.00	0.21	237.57	S 57 34 W	0.08	6398.85	84.6 67.0	33.14 N 77.88 E
6500.00	0.14	292.42	N 67 35 W	0.17	6498.85	84.4 66.9	33.09 N 77.61 E
6600.00	0.38	263.80	S 83 48 W	0.26	6598.85	84.0 66.8	33.10 N 77.17 E
6700.00	0.56	266.81	S 86 49 W	0.18	6698.85	83.2 66.6	33.03 N 76.36 E
6800.00	0.64	290.84	N 69 9 W	0.26	6798.84	82.3 66.2	33.21 N 75.35 E

A Gyrodata Directional Survey

Cinmarex Energy

Lease: Cinmarex University 18-38 Well: No. 2h, 7" Casing

Location: Crane Truck, Ward County, Texas

Job Number: MD1107G_385

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	BORE HOLE BEARING deg. min.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
6900.00	0.68	297.04	N 62 58 W	0.08	6898.84	81.6 65.6	33.67 N 74.30 E
7000.00	0.69	291.10	N 68 54 W	0.07	6998.83	80.8 65.0	34.16 N 73.21 E
7100.00	0.55	272.67	N 87 20 W	0.24	7098.82	79.9 64.5	34.40 N 72.16 E
7200.00	0.78	290.74	N 69 15 W	0.30	7198.82	79.1 64.0	34.66 N 71.05 E
7300.00	0.67	256.40	S 76 24 W	0.44	7298.81	78.0 63.5	34.77 N 69.85 E
7400.00	0.97	260.28	S 80 17 W	0.31	7398.80	76.6 63.3	34.49 N 68.45 E
7500.00	1.01	244.15	S 64 9 W	0.28	7498.78	75.0 63.1	33.96 N 66.82 E
7600.00	0.92	246.25	S 66 15 W	0.09	7598.77	73.3 63.0	33.25 N 65.29 E
7700.00	0.59	267.93	S 87 56 W	0.43	7698.76	72.0 62.8	32.91 N 64.04 E
7800.00	0.43	277.48	N 82 31 W	0.18	7798.76	71.2 62.5	32.94 N 63.15 E
7900.00	0.27	268.78	S 88 47 W	0.17	7898.75	70.7 62.2	32.98 N 62.55 E
8000.00	0.22	232.85	S 52 51 W	0.16	7998.75	70.3 62.1	32.86 N 62.17 E
8100.00	0.28	268.22	S 88 13 W	0.17	8098.75	69.9 62.1	32.74 N 61.77 E
8200.00	0.21	226.56	S 46 34 W	0.19	8198.75	69.5 62.0	32.61 N 61.39 E
8300.00	0.36	251.06	S 71 4 W	0.19	8298.75	69.0 62.0	32.38 N 60.96 E
8400.00	0.69	267.00	S 87 0 W	0.36	8398.75	68.2 61.8	32.24 N 60.06 E
8500.00	1.24	264.48	S 84 29 W	0.55	8498.73	66.6 61.2	32.11 N 58.39 E
8600.00	1.13	270.67	N 89 20 W	0.17	8598.71	64.8 60.4	32.02 N 56.32 E
8700.00	0.79	260.77	S 80 46 W	0.38	8698.70	63.3 59.7	31.92 N 54.66 E
8800.00	0.79	248.29	S 68 17 W	0.17	8798.69	62.0 59.4	31.55 N 53.34 E
8900.00	0.60	264.17	S 84 10 W	0.27	8898.68	60.8 59.1	31.24 N 52.17 E
9000.00	0.79	284.42	N 75 35 W	0.30	8998.67	59.9 58.4	31.36 N 50.98 E
9100.00	0.87	261.43	S 81 26 W	0.34	9098.66	58.7 57.6	31.42 N 49.57 E
9200.00	0.96	254.48	S 74 29 W	0.14	9198.65	57.2 57.1	31.08 N 48.01 E

A Gyrodata Directional Survey

Cimarex Energy

Lease: Cimarex University 18-38 Well: No. 2h, 7" Casing

Location: Crane Truck, Ward County, Texas

Job Number: MD1107G_385

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	BORE HOLE BEARING deg. min.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
9300.00	1.07	252.61	S 72 37 W	0.12	9298.63	55.5 56.6	30.58 N 46.31 E
9400.00	1.25	257.41	S 77 25 W	0.20	9398.61	53.6 55.9	30.06 N 44.35 E
9500.00	0.95	307.70	N 52 18 W	0.97	9498.60	52.3 54.6	30.33 N 42.63 E
9600.00	0.51	359.93	N 0 4 W	0.76	9598.59	52.3 53.3	31.28 N 41.97 E
9700.00	0.06	52.33	N 52 20 E	0.47	9698.59	52.7 52.9	31.76 N 42.01 E
9800.00	2.42	229.71	S 49 43 W	2.48	9798.56	50.6 53.0	30.43 N 40.45 E
9900.00	5.21	244.60	S 64 36 W	2.94	9898.33	44.1 52.0	27.12 N 34.73 E
10000.00	5.71	250.50	S 70 30 W	0.75	9997.88	35.0 47.8	23.51 N 25.93 E
10100.00	5.35	244.81	S 64 49 W	0.66	10097.41	26.2 40.6	19.86 N 17.02 E
10200.00	4.93	243.62	S 63 37 W	0.44	10197.01	18.3 29.3	15.96 N 8.95 E
10300.00	4.63	241.77	S 61 46 W	0.34	10296.66	12.2 7.2	12.14 N 1.54 E
10400.00	4.18	232.12	S 52 7 W	0.86	10396.37	9.4 328.5	7.99 N 4.90 W
10500.00	4.06	229.77	S 49 46 W	0.21	10496.11	11.0 288.3	3.47 N 10.48 W
10600.00	4.15	229.36	S 49 21 W	0.09	10595.85	16.0 265.8	1.18 S 15.93 W
10700.00	3.64	232.28	S 52 17 W	0.55	10695.62	21.9 255.5	5.48 S 21.18 W
10800.00	2.11	238.94	S 58 56 W	1.57	10795.49	26.6 251.7	8.37 S 25.27 W
10900.00	1.58	235.54	S 55 32 W	0.53	10895.44	29.7 250.2	10.10 S 27.98 W
11000.00	1.19	224.34	S 44 20 W	0.48	10995.41	32.0 248.7	11.62 S 29.85 W
11100.00	0.76	210.83	S 30 50 W	0.49	11095.39	33.5 247.3	12.93 S 30.91 W
11200.00	0.64	207.55	S 27 33 W	0.13	11195.39	34.5 246.1	13.99 S 31.51 W
11300.00	0.56	195.49	S 15 29 W	0.15	11295.38	35.2 244.9	14.95 S 31.89 W

Final Station Closure: Distance: 35.22 ft Az: 244.88 deg.

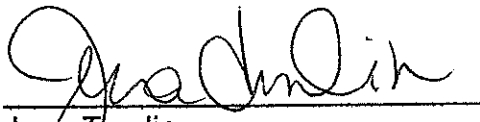


Gyrodata Incorporated
3811 S. Co. Rd. 1285
Odessa, TX. 79765

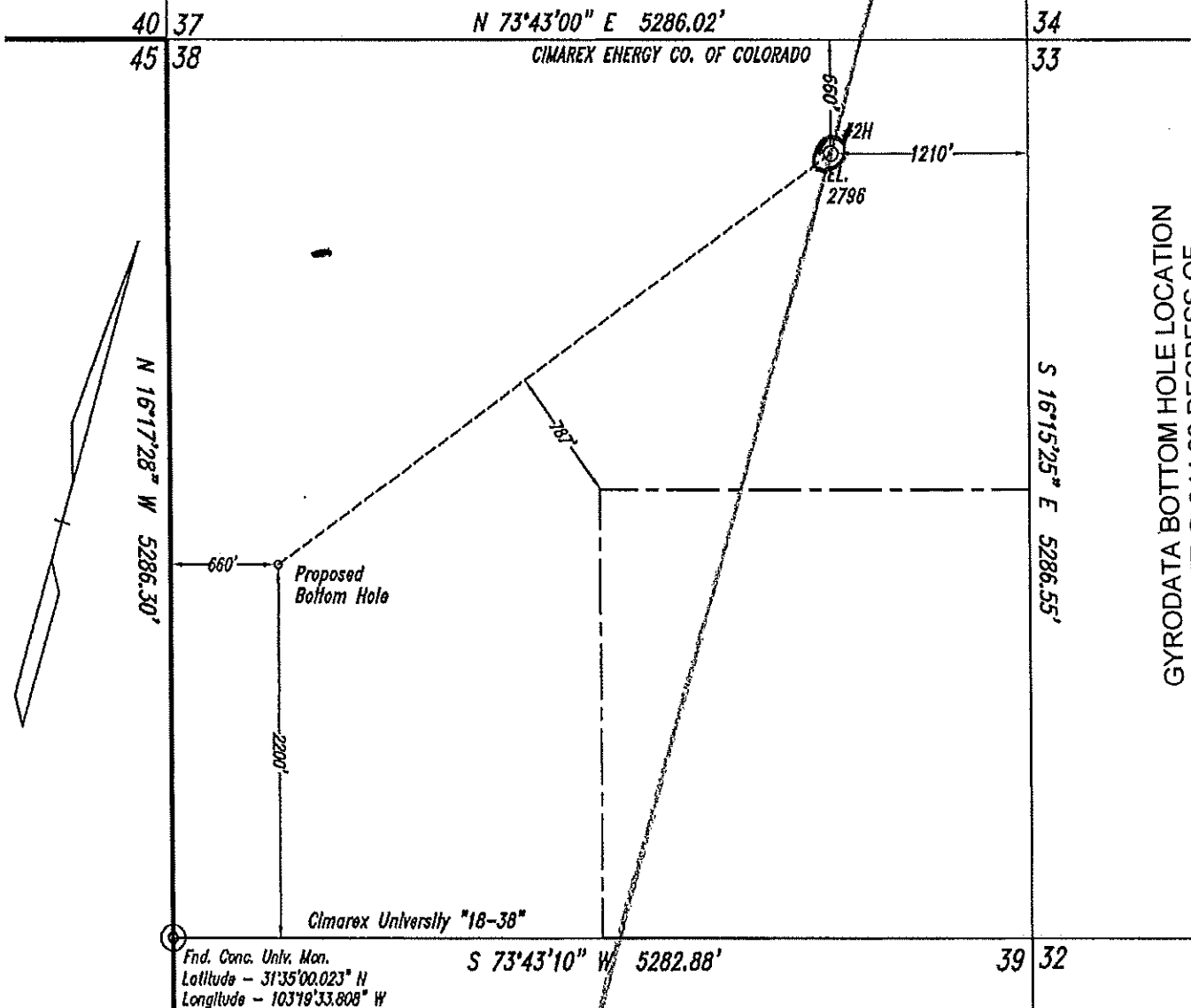
432/561-8458
Fax: 432/563-7982

State of Texas
County of Travis

I, Jena Tumlin, certify that; I am employed by Gyrodata Inc.; that I am authorized and qualified to review the Rate Gyroscopic Multishot survey from a depth of 0 feet to a depth of 11300 feet conducted on the day(s) of 11/15/07 through 11/15/07; that this survey was conducted at the request of Cimarex Energy Co. of Colorado for the Cimarex University '18-38' Well No. 2H No. 42-475-35281 in Ward County, Texas; that the data is true, correct, complete, and within the limitations of the tool as set forth by Gyrodata Inc; that I am authorized and qualified to make this report; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Gyrodata Inc.


Jena Tumlin
Operations

Block 18 University Lands



GYRODATA BOTTOM HOLE LOCATION
35.22 FEET @ 244.88 DEGREES OF
SURFACE LOCATION
MD 11300'
TVD 11295.38'
SOUTH 14.95'
WEST 31.89'

Note: Survey Reconstruction filed in the Office of Luchini and Mertz Land Surveying Company.

Note: All bearings and coordinates shown are based on the Texas Coordinate System of 1927, Central Zone.

A combined grid factor of 0.9998018 must be divided into Section Line distances to obtain a true horizontal distance.

Note: Example: (S-99999) indicates General Land Office file number.

Note: NAD '27 Coordinates & Latitude/Longitude on well location in Section 38.

Note: Well location is approximately 25.4 miles west-northwest of Monahans.

#2H (Surface Location)

X: 1070805.16 Latitude - 31°35'55.957" N
Y: 715197.40 Longitude - 103°19'05.326" W

Proposed Bottom Hole

X: 1068207.13 Latitude - 31°35'22.750" N
Y: 711910.76 Longitude - 103°19'34.333" W

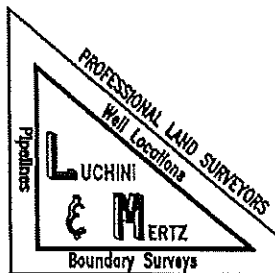
Railroad Commission Permit Plat



Steven L. Prewitt

September 7, 2007

07090701



CIMAREX ENERGY CO. OF COLORADO
Cimarex University "18-38" Lease
W/2 & NE/4 of
Section 38, Block 18,
University Lands
Ward County, Texas

Scale: 1" = 4000'



Cimarex Energy Co., Inc.

Ward Co., Texas

Cimarex-University 18-38 #2H

Cimarex-University 18-38 #2H

Lateral

Survey: MWD Survey #1

Standard Survey Report

07 January, 2008





Black Viper Energy Survey Report



Company:	Cimarex Energy Co., Inc.	Local Co-ordinate Reference:	Well Cimarex-University 18-38 #2H
Project:	Ward Co., Texas	TVD Reference:	Rig KB @ 2812.00ft (Key Rig #92 KB Elev)
Site:	Cimarex-University 18-38 #2H	MD Reference:	Rig KB @ 2812.00ft (Key Rig #92 KB Elev)
Well:	Cimarex-University 18-38 #2H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	EDM 2003.14.1.0 Server DB

Project	Ward Co., Texas		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Texas Central 4203		

Site	Cimarex-University 18-38 #2H		
Site Position:		Northing:	715,197.40 ft
From:	Map	Easting:	1,070,805.16 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	31° 35' 55.942 N
		Longitude:	103° 19' 5.350 W
		Grid Convergence:	-1.54 °

Well	Cimarex-University 18-38 #2H		
Well Position	+N-S	0.00 ft	Northing: 715,197.40 ft
	+E-W	0.00 ft	Easting: 1,070,805.16 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	31° 35' 55.942 N
		Longitude:	103° 19' 5.350 W
		Ground Level:	2,796.00 ft

Wellbore	Lateral		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF200510	11/20/2007	7.84
			Dip Angle (°)
			59.74
			Field Strength (nT)
			48,648

Design	Lateral		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	11,200.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction (°)
			218.33

Survey Program	Date 01/02/2008		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
100.00	11,200.00	Gyro Survey (OH)	NS-GYRO-MS
11,200.00	15,525.00	MWD Survey #1 (Lateral)	MWD
			Description
			North sensing gyrocompassing m/s
			MWD - Standard

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Bulld Rate (°/100ft)	Turn Rate (°/100ft)	
11,200.00	0.64	207.55	11,195.39	-13.99	-31.51	30.51	0.00	0.00	0.00	
11,313.00	19.70	218.50	11,306.10	-29.60	-43.77	50.36	16.88	16.87	9.69	
First MWD Survey										
11,356.00	30.80	226.50	11,344.94	-42.89	-56.31	68.57	26.95	25.81	18.60	
11,366.00	32.30	223.00	11,353.47	-46.61	-59.99	73.77	23.67	15.00	-35.00	
11,376.00	34.80	220.10	11,361.80	-50.75	-63.65	79.28	29.69	25.00	-29.00	
11,388.00	37.60	218.70	11,371.48	-56.23	-68.14	86.37	24.33	23.33	-11.67	
11,398.00	40.30	219.40	11,379.26	-61.11	-72.10	92.65	27.36	27.00	7.00	
11,408.00	43.10	220.30	11,386.72	-66.21	-76.37	99.30	28.63	28.00	9.00	
11,418.00	45.50	221.60	11,393.88	-71.49	-80.95	106.28	25.66	24.00	13.00	
11,428.00	47.80	223.00	11,400.74	-76.86	-85.84	113.53	25.15	23.00	14.00	
11,438.00	50.40	223.40	11,407.29	-82.37	-91.01	121.06	26.18	26.00	4.00	



Black Viper Energy Survey Report



Company: Cimarex Energy Co., Inc.
Project: Ward Co., Texas
Site: Cimarex-University 18-38 #2H
Well: Cimarex-University 18-38 #2H
Wellbore: Lateral
Design: Lateral

Local Co-ordinate Reference: Well Cimarex-University 18-38 #2H
TVD Reference: Rig KB @ 2812.00ft (Key Rig #92 KB Elev)
MD Reference: Rig KB @ 2812.00ft (Key Rig #92 KB Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.14.1.0 Server DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,450.00	52.60	223.50	11,414.76	-89.19	-97.47	130.41	18.34	18.33	0.83
11,460.00	54.70	224.00	11,420.69	-95.01	-103.04	138.43	21.38	21.00	5.00
11,470.00	56.80	224.10	11,426.32	-100.95	-108.79	146.66	21.02	21.00	1.00
11,481.00	58.90	224.10	11,432.17	-107.63	-115.27	155.92	19.09	19.09	0.00
11,491.00	60.80	223.90	11,437.19	-113.85	-121.28	164.53	19.08	19.00	-2.00
11,501.00	63.30	223.60	11,441.88	-120.23	-127.38	173.32	25.14	25.00	-3.00
11,513.00	65.40	224.20	11,447.07	-128.03	-134.89	184.08	18.07	17.50	5.00
11,523.00	67.50	224.40	11,451.07	-134.59	-141.29	193.20	21.08	21.00	2.00
11,533.00	69.60	224.30	11,454.72	-141.24	-147.79	202.46	21.02	21.00	-1.00
11,545.00	72.00	224.00	11,458.67	-149.37	-155.69	213.73	20.14	20.00	-2.50
11,555.00	74.10	224.00	11,461.59	-156.26	-162.33	223.25	21.00	21.00	0.00
11,565.00	76.20	224.00	11,464.15	-163.21	-169.04	232.87	21.00	21.00	0.00
11,577.00	78.40	223.80	11,466.79	-171.64	-177.16	244.52	18.41	18.33	-1.67
11,587.00	80.80	223.50	11,468.59	-178.76	-183.95	254.31	24.18	24.00	-3.00
11,597.00	82.90	223.80	11,470.01	-185.92	-190.78	264.17	21.21	21.00	3.00
11,608.00	85.10	224.30	11,471.16	-193.78	-198.39	275.05	20.50	20.00	4.55
11,640.00	90.40	219.70	11,472.42	-217.53	-219.77	308.94	21.92	16.56	-14.38
11,671.00	91.40	218.50	11,471.93	-241.59	-239.32	337.93	5.04	3.23	-3.87
11,703.00	92.20	218.30	11,470.92	-266.65	-259.18	369.92	2.58	2.50	-0.63
11,735.00	92.20	218.10	11,469.69	-291.78	-278.96	401.89	0.62	0.00	-0.63
11,767.00	92.90	218.00	11,468.27	-316.95	-298.66	433.86	2.21	2.19	-0.31
11,798.00	92.10	218.20	11,466.92	-341.33	-317.77	464.83	2.66	-2.58	0.65
11,830.00	91.30	218.70	11,465.97	-366.38	-337.66	496.82	2.95	-2.50	1.56
11,862.00	90.20	218.30	11,465.55	-391.42	-357.58	528.81	3.66	-3.44	-1.25
11,894.00	88.80	218.20	11,465.83	-416.55	-377.39	560.81	4.39	-4.36	-0.31
11,926.00	88.80	218.20	11,466.50	-441.69	-397.17	592.80	0.00	0.00	0.00
11,958.00	89.50	218.40	11,466.97	-466.80	-417.00	624.80	2.28	2.19	0.63
11,990.00	89.70	218.70	11,467.20	-491.82	-436.95	656.80	1.13	0.63	0.94
12,021.00	89.50	218.50	11,467.41	-516.05	-456.29	687.80	0.91	-0.65	-0.65
12,053.00	90.80	218.70	11,467.33	-541.06	-476.25	719.80	4.11	4.06	0.63
12,085.00	90.80	218.70	11,466.88	-566.03	-496.26	751.79	0.00	0.00	0.00
12,116.00	91.00	219.00	11,466.40	-590.17	-515.70	782.79	1.16	0.65	0.97
12,147.00	90.70	218.10	11,465.94	-614.41	-535.02	813.78	3.06	-0.97	-2.90
12,179.00	91.30	218.00	11,465.38	-639.60	-554.74	845.78	1.90	1.88	-0.31
12,211.00	92.50	217.90	11,464.32	-664.82	-574.40	877.76	3.76	3.75	-0.31
12,243.00	93.10	217.80	11,462.75	-690.06	-594.02	909.72	1.90	1.88	-0.31
12,274.00	92.10	218.20	11,461.35	-714.46	-613.08	940.69	3.47	-3.23	1.29
12,306.00	92.70	217.90	11,460.01	-739.64	-632.79	972.66	2.10	1.88	-0.94
12,338.00	93.10	217.60	11,458.39	-764.91	-652.35	1,004.61	1.56	1.25	-0.94
12,370.00	92.40	217.00	11,456.85	-790.34	-671.72	1,036.57	2.88	-2.19	-1.88
12,402.00	91.90	216.90	11,455.65	-815.89	-690.94	1,068.54	1.59	-1.56	-0.31
12,434.00	91.40	217.00	11,454.73	-841.45	-710.17	1,100.52	1.59	-1.56	0.31
12,466.00	91.70	216.60	11,453.87	-867.07	-729.33	1,132.49	1.56	0.94	-1.25
12,498.00	92.00	216.10	11,452.83	-892.83	-748.29	1,164.46	1.82	0.94	-1.56
12,529.00	91.90	216.50	11,451.78	-917.80	-766.63	1,195.42	1.33	-0.32	1.29
12,561.00	92.00	216.50	11,450.69	-943.50	-785.66	1,227.39	0.31	0.31	0.00
12,593.00	92.40	216.20	11,449.46	-969.26	-804.61	1,259.34	1.56	1.25	-0.94
12,625.00	90.60	216.70	11,448.62	-994.99	-823.61	1,291.31	5.84	-5.63	1.56
12,656.00	89.30	217.00	11,448.65	-1,019.79	-842.20	1,322.30	4.30	-4.19	0.97
12,688.00	89.40	216.90	11,449.01	-1,045.37	-861.44	1,354.29	0.44	0.31	-0.31
12,720.00	89.50	216.60	11,449.32	-1,071.00	-880.58	1,386.28	0.99	0.31	-0.94
12,752.00	89.90	216.50	11,449.49	-1,096.71	-899.64	1,418.26	1.29	1.25	-0.31
12,784.00	89.80	216.60	11,449.67	-1,122.42	-918.70	1,450.25	0.44	-0.31	0.31
12,815.00	90.50	216.90	11,449.49	-1,147.26	-937.24	1,481.24	2.46	2.26	0.97



Black Viper Energy Survey Report



Company:	Cimarex Energy Co., Inc.	Local Co-ordinate Reference:	Well Cimarex-University 18-38 #2H
Project:	Ward Co., Texas	TVD Reference:	Rig KB @ 2812.00ft (Key Rig #92 KB Elev)
Site:	Cimarex-University 18-38 #2H	MD Reference:	Rig KB @ 2812.00ft (Key Rig #92 KB Elev)
Well:	Cimarex-University 18-38 #2H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	EDM 2003.14.1.0 Server DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,847.00	91.20	217.60	11,449.02	-1,172.73	-956.61	1,513.23	3.09	2.19	2.19
12,879.00	91.40	217.30	11,448.29	-1,198.12	-976.06	1,545.21	1.13	0.63	-0.94
12,910.00	91.80	217.30	11,447.42	-1,222.77	-994.84	1,576.20	1.29	1.29	0.00
12,942.00	92.30	217.10	11,446.28	-1,248.25	-1,014.18	1,608.17	1.68	1.56	-0.63
12,974.00	91.90	217.00	11,445.11	-1,273.77	-1,033.45	1,640.14	1.29	-1.25	-0.31
13,005.00	92.10	216.60	11,444.03	-1,298.58	-1,052.00	1,671.11	1.44	0.65	-1.29
13,037.00	92.10	216.70	11,442.85	-1,324.23	-1,071.09	1,703.08	0.31	0.00	0.31
13,069.00	91.10	217.10	11,441.96	-1,349.81	-1,090.30	1,735.05	3.37	-3.13	1.25
13,101.00	90.60	217.20	11,441.48	-1,375.31	-1,109.62	1,767.04	1.59	-1.56	0.31
13,133.00	90.50	217.90	11,441.18	-1,400.68	-1,129.12	1,799.04	2.21	-0.31	2.19
13,164.00	90.00	218.50	11,441.04	-1,425.04	-1,148.29	1,830.04	2.52	-1.61	1.94
13,196.00	91.10	218.60	11,440.74	-1,450.07	-1,168.23	1,862.03	3.45	3.44	0.31
13,228.00	91.30	219.40	11,440.07	-1,474.93	-1,188.37	1,894.02	2.58	0.63	2.50
13,260.00	92.20	218.90	11,439.09	-1,499.74	-1,208.56	1,926.01	3.22	2.81	-1.56
13,292.00	93.70	219.40	11,437.44	-1,524.52	-1,228.74	1,957.96	4.94	4.69	1.56
13,323.00	93.20	220.20	11,435.58	-1,548.29	-1,248.54	1,988.89	3.04	-1.61	2.58
13,355.00	93.40	219.60	11,433.73	-1,572.80	-1,269.04	2,020.83	1.97	0.63	-1.88
13,387.00	93.20	219.40	11,431.89	-1,597.45	-1,289.36	2,052.77	0.88	-0.63	-0.63
13,419.00	91.80	218.60	11,430.50	-1,622.30	-1,309.48	2,084.73	5.04	-4.38	-2.50
13,451.00	90.90	218.70	11,429.74	-1,647.28	-1,329.46	2,116.72	2.83	-2.81	0.31
13,483.00	91.30	218.90	11,429.13	-1,672.21	-1,349.50	2,148.72	1.40	1.25	0.63
13,515.00	91.70	218.70	11,428.29	-1,697.14	-1,369.55	2,180.71	1.40	1.25	-0.63
13,547.00	92.00	218.70	11,427.26	-1,722.10	-1,389.54	2,212.69	0.94	0.94	0.00
13,578.00	92.00	218.30	11,426.17	-1,746.35	-1,408.83	2,243.67	1.29	0.00	-1.29
13,610.00	92.20	218.70	11,425.00	-1,771.38	-1,428.74	2,275.65	1.40	0.63	1.25
13,642.00	92.40	218.50	11,423.72	-1,796.37	-1,448.69	2,307.62	0.88	0.63	-0.63
13,674.00	92.50	217.90	11,422.35	-1,821.49	-1,468.46	2,339.59	1.90	0.31	-1.88
13,706.00	92.50	218.60	11,420.95	-1,846.60	-1,488.25	2,371.56	2.19	0.00	2.19
13,738.00	92.40	217.50	11,419.59	-1,871.77	-1,507.95	2,403.53	3.45	-0.31	-3.44
13,770.00	92.40	217.60	11,418.25	-1,897.12	-1,527.44	2,435.50	0.31	0.00	0.31
13,803.00	92.10	217.20	11,416.95	-1,923.31	-1,547.47	2,468.47	1.51	-0.91	-1.21
13,834.00	92.40	217.40	11,415.73	-1,947.96	-1,566.24	2,499.44	1.16	0.97	0.65
13,866.00	92.70	217.20	11,414.31	-1,973.39	-1,585.61	2,531.40	1.13	0.94	-0.63
13,898.00	92.30	217.50	11,412.91	-1,998.80	-1,605.01	2,563.37	1.56	-1.25	0.94
13,929.00	92.30	217.80	11,411.67	-2,023.32	-1,623.93	2,594.34	0.97	0.00	0.97
13,961.00	92.20	218.00	11,410.41	-2,048.56	-1,643.57	2,626.32	0.70	-0.31	0.63
13,993.00	92.10	218.10	11,409.21	-2,073.74	-1,663.28	2,658.29	0.44	-0.31	0.31
14,024.00	91.90	218.20	11,408.13	-2,098.10	-1,682.42	2,689.27	0.72	-0.65	0.32
14,056.00	91.80	218.00	11,407.10	-2,123.27	-1,702.15	2,721.26	0.70	-0.31	-0.63
14,088.00	92.00	218.00	11,406.04	-2,148.47	-1,721.84	2,753.24	0.63	0.63	0.00
14,119.00	92.40	218.00	11,404.85	-2,172.88	-1,740.91	2,784.22	1.29	1.29	0.00
14,150.00	91.80	217.90	11,403.71	-2,197.31	-1,759.96	2,815.19	1.96	-1.94	-0.32
14,182.00	91.90	217.90	11,402.68	-2,222.55	-1,779.61	2,847.18	0.31	0.31	0.00
14,214.00	92.70	218.10	11,401.39	-2,247.74	-1,799.30	2,879.15	2.58	2.50	0.63
14,246.00	92.70	218.11	11,399.89	-2,272.90	-1,819.02	2,911.11	0.03	0.00	0.03
14,278.00	92.40	217.90	11,398.46	-2,298.09	-1,838.70	2,943.08	1.14	-0.94	-0.66
14,310.00	91.80	217.50	11,397.29	-2,323.39	-1,858.26	2,975.06	2.25	-1.88	-1.25
14,341.00	91.80	218.10	11,396.32	-2,347.87	-1,877.25	3,006.04	1.93	0.00	1.94
14,373.00	92.10	218.80	11,395.23	-2,372.92	-1,897.14	3,038.02	2.38	0.94	2.19
14,405.00	92.10	218.70	11,394.05	-2,397.86	-1,917.15	3,070.00	0.31	0.00	-0.31
14,436.00	92.20	218.80	11,392.89	-2,422.01	-1,936.54	3,100.98	0.46	0.32	0.32
14,468.00	93.00	219.40	11,391.44	-2,446.82	-1,956.70	3,132.94	3.12	2.50	1.88
14,500.00	92.80	219.30	11,389.82	-2,471.54	-1,976.97	3,164.89	0.70	-0.63	-0.31
14,532.00	92.40	218.80	11,388.37	-2,496.36	-1,997.11	3,196.86	2.00	-1.25	-1.56
14,564.00	92.20	219.00	11,387.09	-2,521.24	-2,017.19	3,228.83	0.88	-0.63	0.63



Black Viper Energy
Survey Report



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Project: Ward Co., Texas
Site: Cimarex-University 18-38 #2H
Well: Cimarex-University 18-38 #2H
Wellbore: Lateral
Design: Lateral

Local Co-ordinate Reference: Well Cimarex-University 18-38 #2H
TVD Reference: Rig KB @ 2812.00ft (Key Rig #92 KB Elev)
MD Reference: Rig KB @ 2812.00ft (Key Rig #92 KB Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.14.1.0 Server DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
14,595.00	91.90	218.90	11,385.98	-2,545.34	-2,036.66	3,259.81	1.02	-0.97	-0.32
14,627.00	91.80	219.30	11,384.94	-2,570.16	-2,056.83	3,291.79	1.29	-0.31	1.25
14,659.00	91.50	219.00	11,384.02	-2,594.96	-2,077.03	3,323.77	1.33	-0.94	-0.94
14,691.00	91.50	219.00	11,383.18	-2,619.82	-2,097.16	3,355.76	0.00	0.00	0.00
14,722.00	91.00	219.30	11,382.51	-2,643.86	-2,116.73	3,386.75	1.88	-1.61	0.97
14,754.00	90.60	219.00	11,382.06	-2,668.67	-2,136.93	3,418.74	1.56	-1.25	-0.94
14,786.00	90.20	219.00	11,381.84	-2,693.54	-2,157.06	3,450.74	1.25	-1.25	0.00
14,818.00	89.90	219.00	11,381.81	-2,718.41	-2,177.20	3,482.74	0.94	-0.94	0.00
14,850.00	90.50	219.40	11,381.70	-2,743.21	-2,197.43	3,514.73	2.25	1.88	1.25
14,882.00	90.90	219.50	11,381.31	-2,767.91	-2,217.76	3,546.73	1.29	1.25	0.31
14,913.00	90.70	219.20	11,380.87	-2,791.88	-2,237.41	3,577.72	1.16	-0.65	-0.97
14,945.00	90.80	219.40	11,380.46	-2,816.64	-2,257.68	3,609.71	0.70	0.31	0.63
14,976.00	89.80	218.60	11,380.29	-2,840.74	-2,277.19	3,640.71	4.13	-3.23	-2.58
15,008.00	89.30	217.90	11,380.54	-2,865.86	-2,297.00	3,672.71	2.69	-1.56	-2.19
15,040.00	89.20	217.90	11,380.96	-2,891.11	-2,316.65	3,704.70	0.31	-0.31	0.00
15,071.00	89.10	218.10	11,381.42	-2,916.54	-2,335.74	3,735.70	0.72	-0.32	0.65
15,103.00	89.10	217.90	11,381.93	-2,940.75	-2,355.44	3,767.69	0.62	0.00	-0.63
15,135.00	89.20	218.10	11,382.40	-2,965.97	-2,375.13	3,799.69	0.70	0.31	0.63
15,167.00	89.60	217.90	11,382.74	-2,991.18	-2,394.83	3,831.69	1.40	1.25	-0.63
15,199.00	90.30	218.40	11,382.76	-3,016.34	-2,414.60	3,863.69	2.69	2.19	1.56
15,231.00	90.80	218.90	11,382.46	-3,041.33	-2,434.59	3,895.68	2.21	1.56	1.56
15,263.00	91.70	219.10	11,381.76	-3,066.20	-2,454.72	3,927.67	2.88	2.81	0.63
15,294.00	92.00	219.40	11,380.76	-3,090.19	-2,474.32	3,958.65	1.37	0.97	0.97
15,325.00	92.00	219.50	11,379.68	-3,114.11	-2,494.01	3,989.63	0.32	0.00	0.32
15,357.00	91.80	219.80	11,378.62	-3,138.74	-2,514.42	4,021.60	1.13	-0.63	0.94
15,389.00	91.50	219.90	11,377.69	-3,163.30	-2,534.91	4,053.58	0.99	-0.94	0.31
15,420.00	91.60	219.90	11,376.86	-3,187.07	-2,554.79	4,084.56	0.32	0.32	0.00
15,452.00	91.70	220.10	11,375.93	-3,211.57	-2,575.35	4,116.53	0.70	0.31	0.63
15,478.00	91.50	220.10	11,375.21	-3,231.45	-2,592.09	4,142.51	0.77	-0.77	0.00
Last MWD Survey									
15,525.01	90.60	216.96	11,374.13	-3,286.64	-2,598.03	4,189.48	6.95	-1.92	-6.68
Proj. To Bit - PBHL#13[CU18-38#2H]									



Black Viper Energy Survey Report



Company: Cimarex Energy Co., Inc.
Project: Ward Co., Texas
Site: Cimarex-University 18-38 #2H
Well: Cimarex-University 18-38 #2H
Wellbore: Lateral
Design: Lateral

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well Cimarex-University 18-38 #2H
Rig KB @ 2812.00ft (Key Rig #92 KB Elev)
Rig KB @ 2812.00ft (Key Rig #92 KB Elev)
Grid
Minimum Curvature
EDM 2003.14.1.0 Server DB

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL#13[CU18-38#2H] - survey hits target - Point	0.00	0.00	11,374.13	-3,286.64	-2,598.03	711,910.76	1,068,207.13	31° 35' 22.735 N	103° 19' 34.357 W
PBHL#4[CU18-38#2H] - survey misses by 1.84ft at 15525.01ft MD (11374.13 TVD, -3286.64 N, -2598.03 E) - Point	0.00	0.00	11,372.29	-3,286.64	-2,598.03	711,910.76	1,068,207.13	31° 35' 22.735 N	103° 19' 34.357 W
z1 - survey misses by 11195.44ft at 11200.00ft MD (11195.39 TVD, -13.99 N, -31.51 E) - Point	0.00	0.00	0.00	0.00	0.00	715,197.40	1,070,805.16	31° 35' 55.942 N	103° 19' 5.350 W
PBHL#5[CU18-38#2H] - survey misses by 41.21ft at 15524.54ft MD (11374.35 TVD, -3287.84 N, -2621.08 E) - Point	0.00	0.00	11,402.87	-3,286.64	-2,598.03	711,910.76	1,068,207.13	31° 35' 22.735 N	103° 19' 34.357 W
PBHL#7[CU18-38#2H] - survey misses by 31.56ft at 15524.83ft MD (11374.35 TVD, -3286.07 N, -2621.26 E) - Point	0.00	0.00	11,384.93	-3,286.64	-2,598.03	711,910.76	1,068,207.13	31° 35' 22.735 N	103° 19' 34.357 W
PBHL#2[CU18-38#2H] - survey misses by 66.78ft at 15524.02ft MD (11374.36 TVD, -3267.43 N, -2620.77 E) - Point	0.00	0.00	11,434.13	-3,286.64	-2,598.03	711,910.76	1,068,207.13	31° 35' 22.735 N	103° 19' 34.357 W
PBHL#3[CU18-38#2H] - survey misses by 58.58ft at 15524.17ft MD (11374.36 TVD, -3267.55 N, -2620.86 E) - Point	0.00	0.00	11,424.81	-3,286.64	-2,598.03	711,910.76	1,068,207.13	31° 35' 22.735 N	103° 19' 34.357 W
PBHL#9[CU18-38#2H] - survey misses by 2.84ft at 15525.01ft MD (11374.13 TVD, -3286.64 N, -2598.03 E) - Point	0.00	0.00	11,371.29	-3,286.64	-2,598.03	711,910.76	1,068,207.13	31° 35' 22.735 N	103° 19' 34.357 W
PBHL#12[CU18-38#2H] - survey misses by 12.47ft at 15525.01ft MD (11374.13 TVD, -3286.64 N, -2598.03 E) - Point	0.00	0.00	11,361.66	-3,286.64	-2,598.03	711,910.76	1,068,207.13	31° 35' 22.735 N	103° 19' 34.357 W
PBHL#10[CU18-38#2H] - survey misses by 17.11ft at 15525.01ft MD (11374.13 TVD, -3286.64 N, -2598.03 E) - Point	0.00	0.00	11,357.02	-3,286.64	-2,598.03	711,910.76	1,068,207.13	31° 35' 22.735 N	103° 19' 34.357 W
PBHL#6[CU18-38#2H] - survey misses by 32.29ft at 15524.80ft MD (11374.35 TVD, -3268.05 N, -2621.24 E) - Point	0.00	0.00	11,386.93	-3,286.64	-2,598.03	711,910.76	1,068,207.13	31° 35' 22.735 N	103° 19' 34.357 W
PBHL#8[CU18-38#2H] - survey misses by 29.73ft at 15525.01ft MD (11374.35 TVD, -3268.21 N, -2621.36 E) - Point	0.00	0.00	11,374.29	-3,286.64	-2,598.03	711,910.76	1,068,207.13	31° 35' 22.735 N	103° 19' 34.357 W
PBHL#11[CU18-38#2H] - survey misses by 19.11ft at 15525.01ft MD (11374.13 TVD, -3286.64 N, -2598.03 E) - Point	0.00	0.00	11,355.02	-3,286.64	-2,598.03	711,910.76	1,068,207.13	31° 35' 22.735 N	103° 19' 34.357 W

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
11,313.00	11,306.10	-29.60	-43.77	First MWD Survey
15,478.00	11,375.21	-3,231.45	-2,592.09	Last MWD Survey
15,525.00	11,373.98	-3,267.39	-2,622.36	Proj. To Bit

Checked By: _____

Approved By: _____

Date: _____