

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

RECEIVED

State of New Mexico
Minerals and Natural Resources

Form C-101

May 27, 2004

JAN 2 2 2009
HOBBSOCD

Oil Conservation Division

1220 South St. Francis Dr.

Santa Fe, NM 87505

Submit to appropriate District Office

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address Cimarex Energy Co. of Colorado 5215 N. O'Connor Blvd., Ste 1500 Irving, TX 75039		⁷ OGRID Number 162683
		⁹ API Number 30-025-27417
³ Property Code 300556	⁴ Property Name State HH	⁶ Well No. 001
⁹ Proposed Pool 1 Lusk; Bone Spring, East		¹⁰ Proposed Pool 2

⁷ Surface Location

UL or lot no. H	Section 36	Township 19S	Range 32E	Lot Idn	Feet from the 1980	North/South line North	Feet from the 660	East/West line East	County Lea
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⁸ Proposed Bottom Hole Location If Different From Surface

UL or lot no. D	Section 36	Township 19S	Range 32E	Lot Idn	Feet from the 660	North/South line North	Feet from the 660	East/West line West	County Lea
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Additional Well Information

¹¹ Work Type Code P	¹² Well Type Code O	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3582' GL
¹⁶ Multiple N	¹⁷ Proposed Depth 14462' (horizontal MD)	¹⁸ Formation Bone Spring	¹⁹ Contractor N/A	²⁰ Spud Date When Approved
Depth to Groundwater		Distance from nearest fresh water well		Distance from nearest surface water
Pit: Liner. Synthetic ☐ _____mils thick Clay ☐ Pit Volume: _____ bbls Drilling Method: Closed-Loop System ☒ Flowback Tanks Fresh Water ☐ Brine ☐ Diesel/Oil-based ☐ Gas/Air ☐				

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17½"	13¾"	48#	1355'	1200	Surface
12¼"	9⅝"	36#	5100'	3100	Surface
7⅞"	5½"	17#	13800'	1100, 1150 sx w/ CICR	Surface
6⅞"	3½"	9.3#	14462'	No cmt, PEAK	

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

Well currently producing from Middle Morrow 13240-248' – 13318-324' – 13364-370' and 13390-398' – 13548-550.' CIBP @ 13560' w/ 10' cmt over Middle Morrow 13582-596' and Lower Morrow 13603-624' (squeezed). Cimarex proposes the following operations to recomplate horizontally in the Bone Spring:

- Kill well. NU 5K BOP. Run.CBL. Set CIBP @ 13190' (over Morrow) w/ 35' cmt. Set CIBP @ 9762' w/ 2 sx sand.
- Mill window from 9740' to 9755.' Kick off 6⅞" hole at 9750'. Land curve @ 10056' MD and drill to TD of 14462' MD and 9945' TVD.
- Run 3⅝" 9.3# P-110 EUE 8rd liner from RSB packer at 9650' to TD of 14462' MD. Liner will be PEAK completion assembly with no cement.
- Fracture treat in several stages as needed through iso-ports (separated by iso-packer)

Please see attached preliminary directional survey, current WBD, and C-102.

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Natalie Krueger
Printed name: Natalie Krueger

Title: Regulatory Analyst

E-mail Address: nkrueger@cimarex.com

Date: January 21, 2009

Phone: 469-420-2723

OIL CONSERVATION DIVISION

Approved by:

Title:

PETROLEUM ENGINEER

Approval Date:

Expiration Date:

APR 08 2009

Conditions of Approval Attached ☐

Permit Expires 2 Years From Approval
Date Unless Drilling Underway
Horizontal

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State of New Mexico

Energy, Minerals & Natural Resources Department

JAN 26 2006 OIL CONSERVATION DIVISION

HOBBSOCD

1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-025-27417		2 Pool Code 27220		3 Pool Name Gem; Bone Spring	
4 Property Code		5 Property Name State HH			6 Well Number 001
7 OGRID No. 162683		8 Operator Name CIMAREX ENERGY CO. OF COLORADO			9 Elevation 3582' GL

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	36	19S	32E		1980	North	660	East	Lea

11 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
D	36	19S	32E		330	North	330	West	Lea

12 Dedicated Acres 200	13 Joint or Infill	14 Consolidation Code P	15 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.

				17 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. <u>Zeno Farris</u> 1/21/2009 Signature Date Printed Name	
18 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 of Survey Signature and Seal of Professional Surveyor: Certificate Number	



Cimarex Energy Co. of Colorado

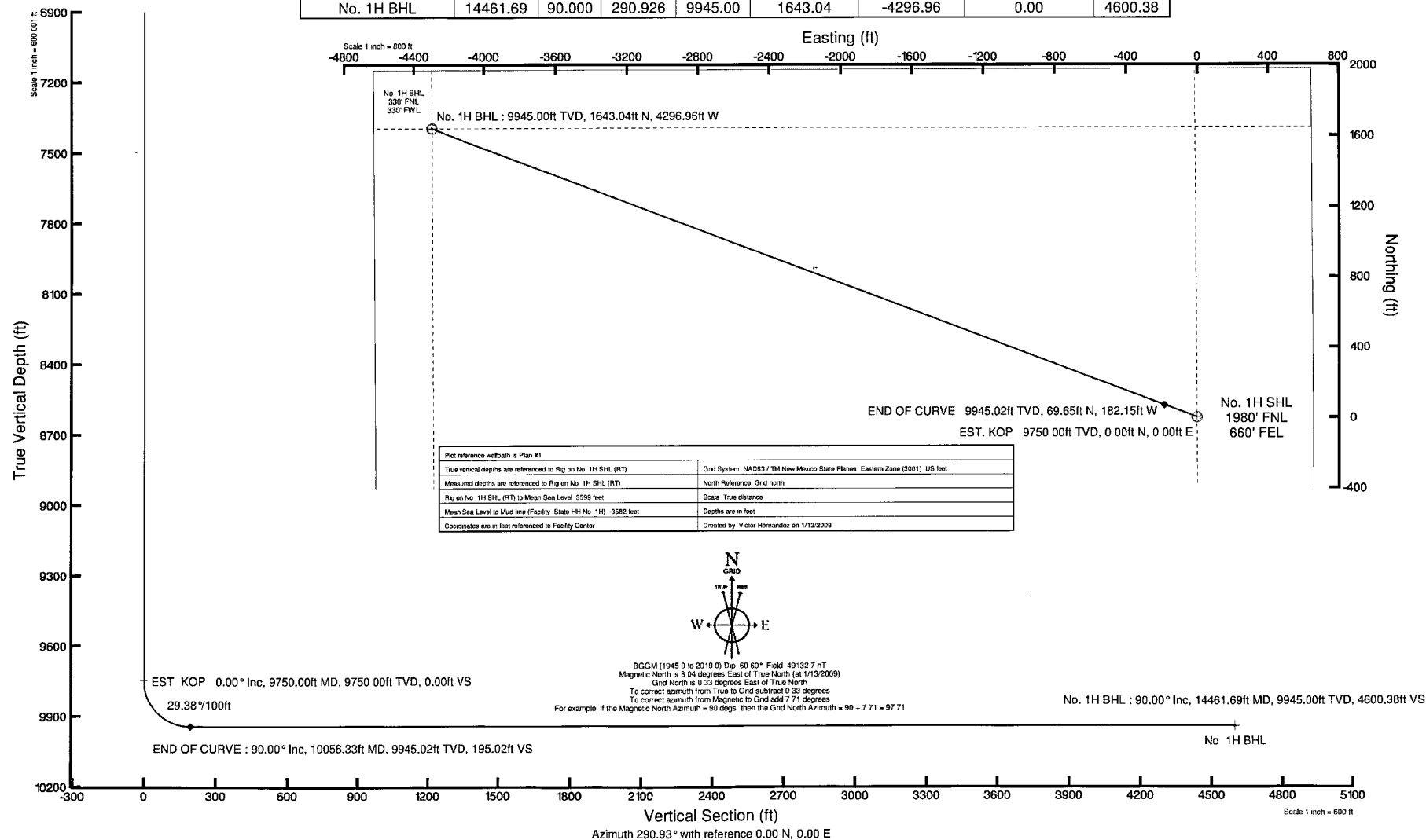
Location: Lea County, NM
Field: (State HH) Sec 36, T19S, R32E
Facility: State HH No. 1H

Slot: No. 1H SHL
Well: No. 1H
Wellbore: No. 1H 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	290.926	0.00	0.00	0.00	0.00	0.00
EST. KOP	9750.00	0.000	290.926	9750.00	0.00	0.00	0.00	0.00
END OF CURVE	10056.33	90.000	290.926	9945.02	69.65	-182.15	29.38	195.02
No. 1H BHL	14461.69	90.000	290.926	9945.00	1643.04	-4296.96	0.00	4600.38





Planned Wellpath Report

Plan #1
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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(State HH) Sec 36, T19S, R32E	Wellbore	No. 1H PWB
Facility	State HH No. 1H		

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	0.999951	Report Generated	1/13/2009 at 4:13:53 PM
Convergence at slot	0.33° East	Database/Source file	WA_Midland/No. 1H_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	732253.55	589323.42	32°37'06.852"N	103°42'47.727"W
Facility Reference Pt			732253.55	589323.42	32°37'06.852"N	103°42'47.727"W
Field Reference Pt			730941.22	588045.42	32°36'54.281"N	103°43'03.157"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 1H SHL (RT) to Facility Vertical Datum	17.00ft
Horizontal Reference Pt	Facility Center	Rig on No. 1H SHL (RT) to Mean Sea Level	3599.00ft
Vertical Reference Pt	Rig on No. 1H SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 1H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	290.93°



Planned Wellpath Report

Plan #1
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REFERENCE WELLPATH IDENTIFICATION			
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Area	Lea County, NM	Well	No. 1H
Field	(State HH) Sec 36, T19S, R32E	Wellbore	No. 1H PWB
Facility	State HH No. 1H		

WELLPATH DATA (51 stations) † = interpolated/extrapolated station								Comments
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	
0.00	0.000	290.926	0.00	0.00	0.00	0.00	0.00	Tie On
9750.00	0.000	290.926	9750.00	0.00	0.00	0.00	0.00	EST. KOP
9850.00†	29.380	290.926	9845.67	25.08	8.96	-23.43	29.38	
9950.00†	58.760	290.926	9916.74	93.88	33.53	-87.68	29.38	
10050.00†	88.140	290.926	9944.91	188.69	67.39	-176.24	29.38	
10056.33	90.000	290.926	9945.02	195.02	69.65	-182.15	29.38	END OF CURVE
10150.00†	90.000	290.926	9945.02	288.69	103.11	-269.65	0.00	
10250.00†	90.000	290.926	9945.02	388.69	138.82	-363.05	0.00	
10350.00†	90.000	290.926	9945.02	488.69	174.54	-456.45	0.00	
10450.00†	90.000	290.926	9945.01	588.69	210.25	-549.86	0.00	
10550.00†	90.000	290.926	9945.01	688.69	245.97	-643.26	0.00	
10650.00†	90.000	290.926	9945.01	788.69	281.68	-736.67	0.00	
10750.00†	90.000	290.926	9945.01	888.69	317.40	-830.07	0.00	
10850.00†	90.000	290.926	9945.01	988.69	353.11	-923.48	0.00	
10950.00†	90.000	290.926	9945.01	1088.69	388.83	-1016.88	0.00	
11050.00†	90.000	290.926	9945.01	1188.69	424.54	-1110.29	0.00	
11150.00†	90.000	290.926	9945.01	1288.69	460.26	-1203.69	0.00	
11250.00†	90.000	290.926	9945.01	1388.69	495.97	-1297.10	0.00	
11350.00†	90.000	290.926	9945.01	1488.69	531.69	-1390.50	0.00	
11450.00†	90.000	290.926	9945.01	1588.69	567.41	-1483.90	0.00	
11550.00†	90.000	290.926	9945.01	1688.69	603.12	-1577.31	0.00	
11650.00†	90.000	290.926	9945.01	1788.69	638.84	-1670.71	0.00	
11750.00†	90.000	290.926	9945.01	1888.69	674.55	-1764.12	0.00	
11850.00†	90.000	290.926	9945.01	1988.69	710.27	-1857.52	0.00	
11950.00†	90.000	290.926	9945.01	2088.69	745.98	-1950.93	0.00	
12050.00†	90.000	290.926	9945.01	2188.69	781.70	-2044.33	0.00	
12150.00†	90.000	290.926	9945.01	2288.69	817.41	-2137.74	0.00	
12250.00†	90.000	290.926	9945.01	2388.69	853.13	-2231.14	0.00	
12350.00†	90.000	290.926	9945.01	2488.69	888.84	-2324.55	0.00	
12450.00†	90.000	290.926	9945.01	2588.69	924.56	-2417.95	0.00	



Planned Wellpath Report

Plan #1

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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co. of Colorado	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(State HH) Sec 36, T19S, R32E	Wellbore	No. 1H PWB
Facility	State HH No. 1H		

WELLPATH DATA (51 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
12550.00†	90.000	290.926	9945.01	2688.69	960.28	-2511.35	0.00	
12650.00†	90.000	290.926	9945.01	2788.69	995.99	-2604.76	0.00	
12750.00†	90.000	290.926	9945.01	2888.69	1031.71	-2698.16	0.00	
12850.00†	90.000	290.926	9945.01	2988.69	1067.42	-2791.57	0.00	
12950.00†	90.000	290.926	9945.01	3088.69	1103.14	-2884.97	0.00	
13050.00†	90.000	290.926	9945.01	3188.69	1138.85	-2978.38	0.00	
13150.00†	90.000	290.926	9945.00	3288.69	1174.57	-3071.78	0.00	
13250.00†	90.000	290.926	9945.00	3388.69	1210.28	-3165.19	0.00	
13350.00†	90.000	290.926	9945.00	3488.69	1246.00	-3258.59	0.00	
13450.00†	90.000	290.926	9945.00	3588.69	1281.71	-3352.00	0.00	
13550.00†	90.000	290.926	9945.00	3688.69	1317.43	-3445.40	0.00	
13650.00†	90.000	290.926	9945.00	3788.69	1353.14	-3538.80	0.00	
13750.00†	90.000	290.926	9945.00	3888.69	1388.86	-3632.21	0.00	
13850.00†	90.000	290.926	9945.00	3988.69	1424.58	-3725.61	0.00	
13950.00†	90.000	290.926	9945.00	4088.69	1460.29	-3819.02	0.00	
14050.00†	90.000	290.926	9945.00	4188.69	1496.01	-3912.42	0.00	
14150.00†	90.000	290.926	9945.00	4288.69	1531.72	-4005.83	0.00	
14250.00†	90.000	290.926	9945.00	4388.69	1567.44	-4099.23	0.00	
14350.00†	90.000	290.926	9945.00	4488.69	1603.15	-4192.64	0.00	
14450.00†	90.000	290.926	9945.00	4588.69	1638.87	-4286.04	0.00	
14461.69	90.000	290.926	9945.00 ¹	4600.38	1643.04	-4296.96	0.00	No 1H BHL

HOLE & CASING SECTIONS Ref Wellbore: No. 1H PWB Ref Wellpath: Plan #1									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
5.5in Casing	0.00	9750.00	9750.00	0.00	9750.00	0.00	0.00	0.00	0.00
4.75in Open Hole	9750.00	14461.69	4711.69	9750.00	9945.00	0.00	0.00	1643.04	-4296.96



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Plan #1
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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co. of Colorado	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(State HH) Sec 36, T19S, R32E	Wellbore	No. 1H PWB
Facility	State HH No. 1H		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 1H BHL	14461.69	9945.00	1643.04	-4296.96	727956.81	590966.38	32°37'23.354"N	103°43'37.854"W	point

SURVEY PROGRAM Ref Wellbore: No. 1H PWB Ref Wellpath: Plan #1				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	14461.69	NaviTrak (Standard)		No. 1H PWB

WELLBORE SCHEMATIC

State HH 1 - 30-025-38594

36-19S-32E

GL 3641'

13 3/8" 48#
1200 sx cmt, circ 150

1355 ft

9 5/8" 36#
450 sks 1st stg/2650 sks 2nd stg

5100 ft

2 7/8" L-80 6.5 #/ft
AB MOD Tbg.
2.31 F Nipple
1 Jt 2 7/8" L-80
XL On/Off Tool
Guiberson Latch
Seal Assembly
Guiberson GT Perm

Guiberson GT Perm Pkr
w/ 2.25 F nipple @ 13068
Middle Morrow 13240-248,
1318-324,13364-370 6 spf
Guiberson Magnum Perm
Pkr w/ 1.812 R nipple below
Middle Morrow 13390-398
Middle Morrow 13548-550
CIBP @ 13560w/15 ft cmt
Middle Morrow-13582-596

Lower Morrow- 13603-624
Sqz'd 11/9/89

5 1/2" 17#
1100 sks.

13800 ft

13800 ft TD