8114

ATS-08-129

DEC 17 2007

OCD-ARTESIA

OCD-ARTESIA 86

Form 3160-3
(April 2004)

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HIGH CAVEKARST

APPLICATION FOR PERMIT TO DRILL OR REENTER

S

1a. Type of work: [X] DRILL [ ] REENTER	5. Lease Serial No. NM-15295
1b. Type of Well: [ ] Oil Well [X] Gas Well [ ] Other [X] Single Zone [ ] Multiple Zone	6. If Indian, Allotee or Tribe Name ----------
2. Name of Operator ENCORE OPERATING, L. P. (BILLY JUROSKA 817-339-0788)	7. If Unit or CA Agreement, Name and No. ----------
3a. Address 777 MAIN STREET SUITE 1400 FORT WORTH, TEXAS 76102	8. Lease Name and Well No. CK "6" FEDERAL # 1
3b. Phone No. (include area code) 817-877-9955	9. API Well No. 30-015-36000
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface 450' FSL & 1875' FEL SECTION 6 T24S-R26E EDDY CO. NM At proposed prod. zone BHL 700' FSL & 1800' FEL SECTION 6 T24S-R26E	10. Field and Pool, or Exploratory CARLSBAD MORROW-SOUTH
	11. Sec., T. R. M. or Blk. and Survey or Area SECTION 6 T24S-R26E
14. Distance in miles and direction from nearest town or post office* Approximately 6 miles North Northeast of White City NM	12. County or Parish EDDY CO. / 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any) 1875'	16. No. of acres in lease 1200 / 17. Spacing Unit dedicated to this well 320
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 3200'	19. Proposed Depth 12359 ~~13,000'~~ TVD 12380 - MD / 20. BLM/BIA Bond No. on file MTB-000020
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3760' GL	22. Approximate date work will start* WHEN APPROVED / 23. Estimated duration 50 Days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature Joe T. Janica	Name (Printed Typed) Joe T. Janica	Date 10/25/07
Title Permit Engineer		
Approved by (Signature) /s/ Don Peterson	Name (Printed Typed)	Date DEC 12 2007
Title FOR FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*(Instructions on page 2)

Carlsbad Controlled Water Basin

~~APPROVAL SUBJECT TO~~
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

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

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

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

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

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

API Number	Pool Code	Pool Name
	73960	CARLSBAD MORROW-SOUTH

Property Code	Property Name	Well Number
31901	CK "6" FEDERAL	1

OGRID No.	Operator Name	Elevation
189951	ENCORE OPERATING, L.P.	3760'

Surface Location

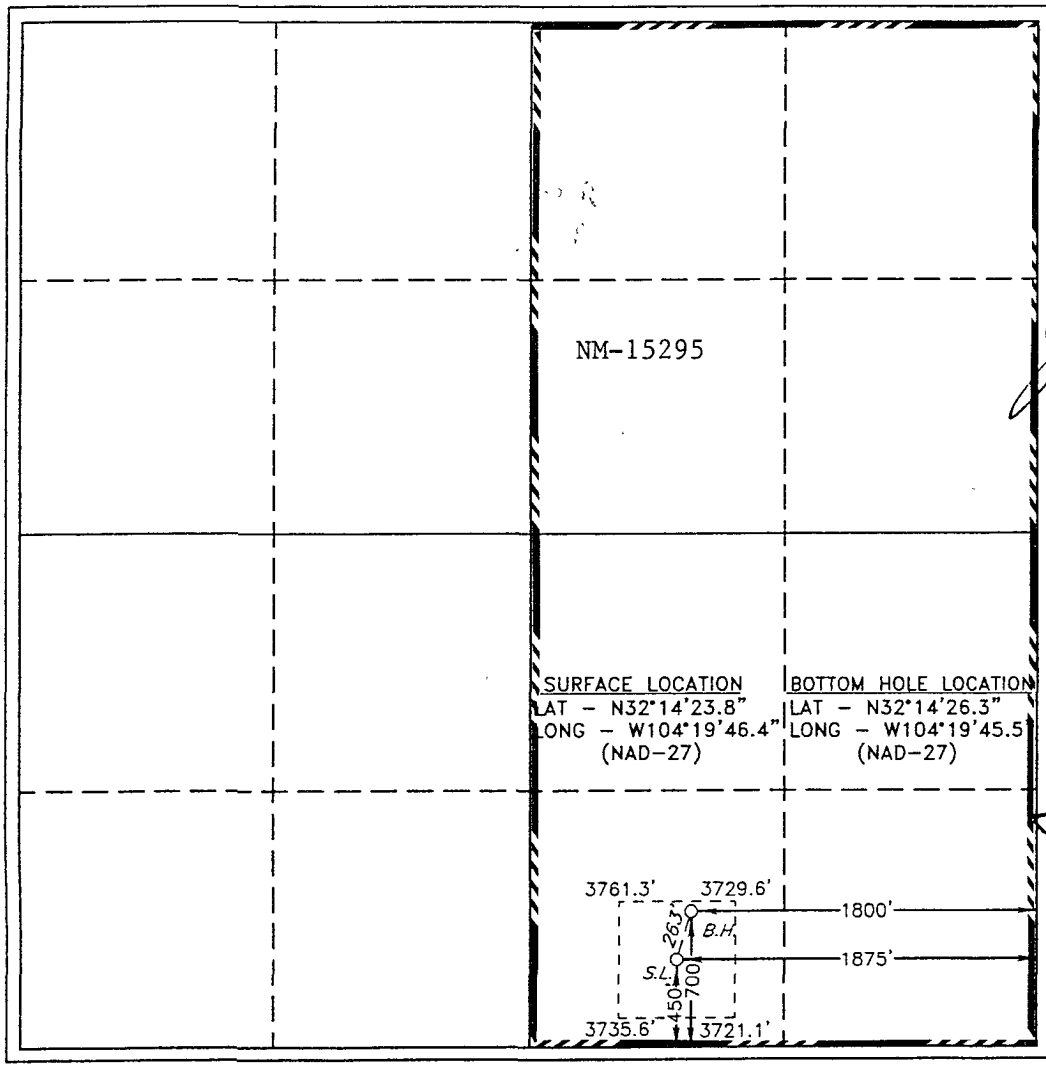
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	6	24 S	26 E		450	SOUTH	1875	EAST	EDDY

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
O	6	24 S	26 E		700	SOUTH	1800	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

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



OPERATOR CERTIFICATION

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

Signature — Date: 10/25/07

Joe T. Janica
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 supervison, and that the same is true and correct to the best of my belief.

MAY 24, 2007
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES — NEW MEXICO — 7977 — REGISTERED PROFESSIONAL LAND SURVEYOR

W.O. No. 18160

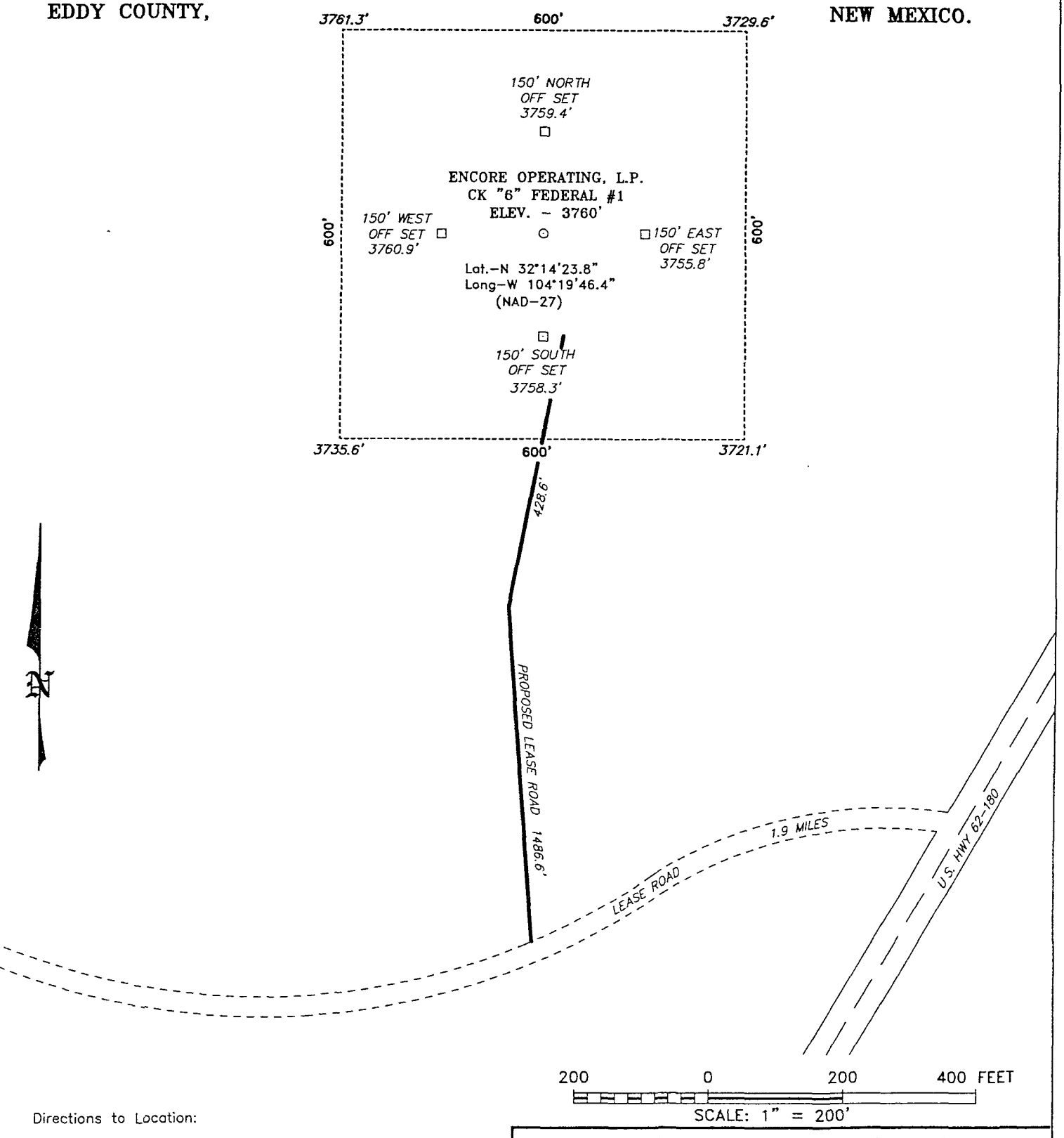
Certificate No. Gary L. Jones 7977

BASIN SURVEYS

EXHIBIT "A"

SECTION 6, TOWNSHIP 24 SOUTH, RANGE 26 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO.



Directions to Location:

FROM MILE MARKER 21.9 OF U.S. HWY 62-180, GO WEST ON LEASE ROAD 1.9 MILES TO PROPOSED LEASE ROAD.

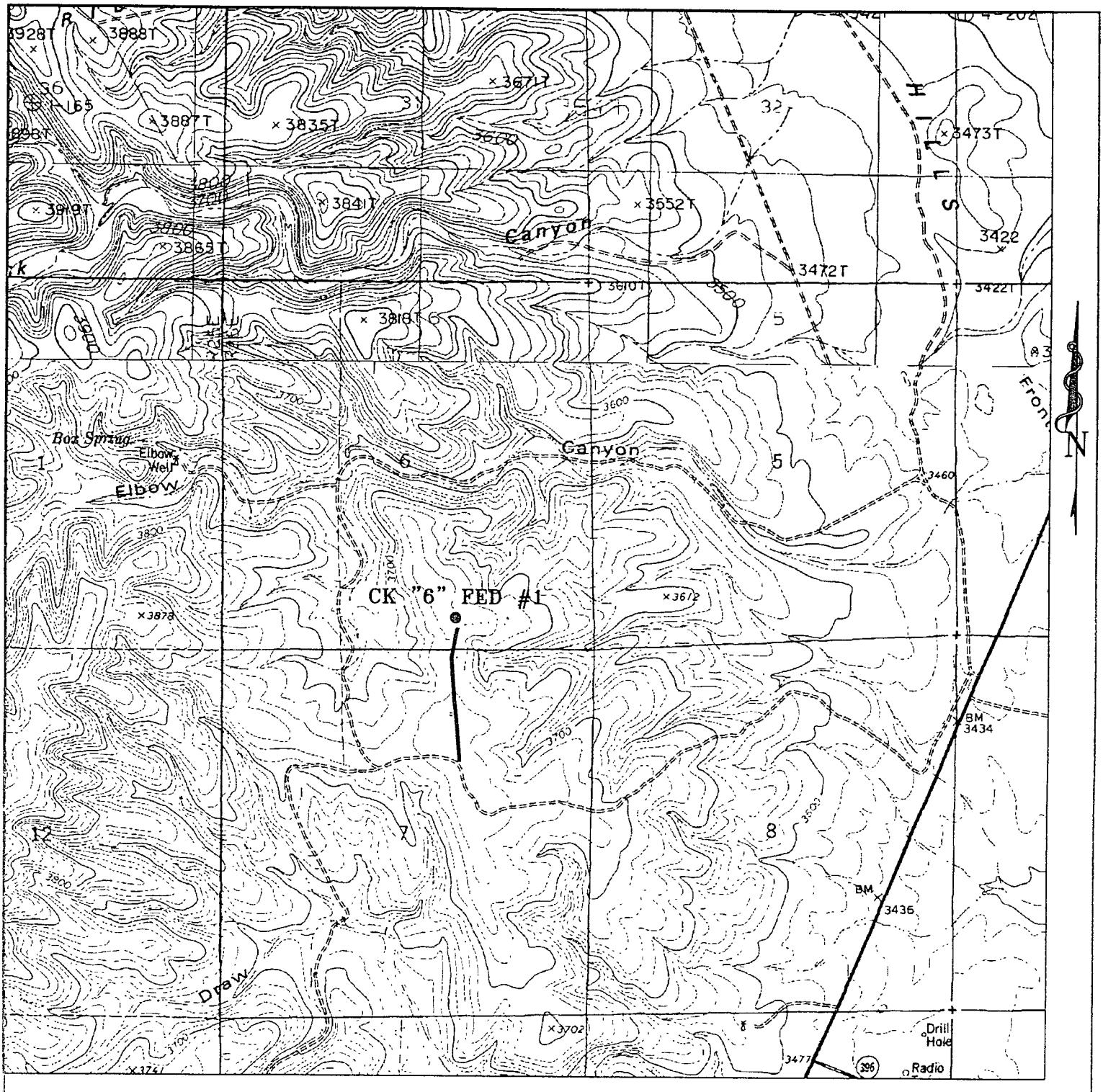
ENCORE OPERATING, L.P.

REF: CK "6" FEDERAL #1 / WELL PAD TOPO

THE CK "6' FEDERAL #1 LOCATED 450' FROM THE SOUTH LINE AND 1875' FROM THE EAST LINE OF SECTION 6, TOWNSHIP 24 SOUTH, RANGE 26 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

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

W.O. Number: 18160	Drawn By: J. M. SMALL		
Date: 05-25-2007	Disk: JMS 18160W	Survey Date: 05-24-2007	Sheet 1 of 1 Sheets

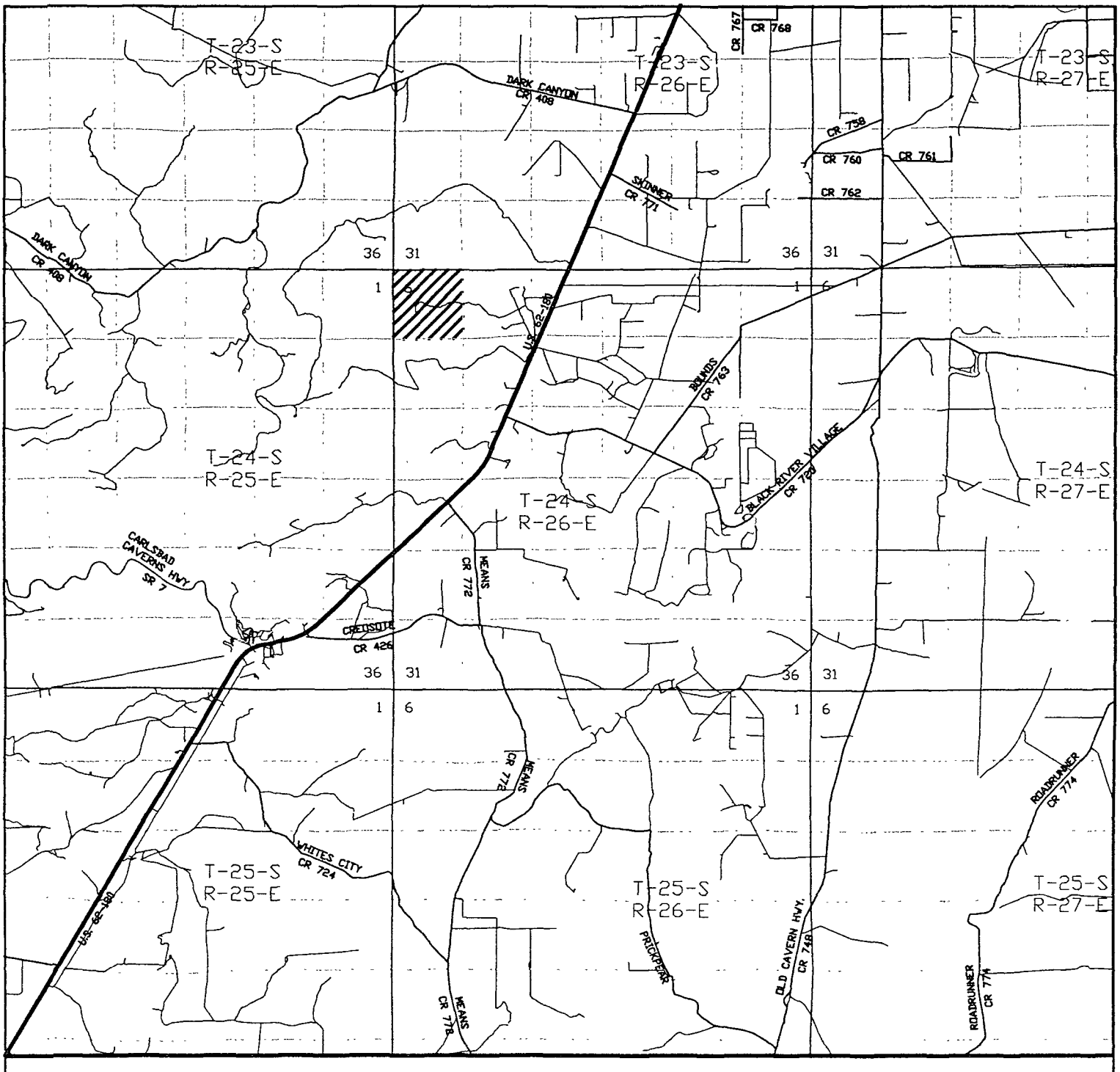


CK "6" FEDERAL #1
Located at 450' FSL and 1875' FEL
Section 6, Township 24 South, Range 26 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com

W.O. Number	18160T
Survey Date:	05-24-2007
Scale	1" = 2000'
Date:	05-25-2007

ENCORE OPERATING, L.P.



CK "6" FEDERAL #1
Located at 450' FSL and 1875' FEL
Section 6, Township 24 South, Range 26 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys
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P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 – Office
(505) 392-3074 – Fax
basinsurveys.com

W.O. Number:	18160TR
Survey Date:	05-24-2007
Scale:	1" = 2 MILES
Date:	05-25-2007

ENCORE
OPERATING, L.P.

APPLICATION TO DRILL

ENCORE OPERATING, L.P.
CK "6" FEDERAL # 1
UNIT "O" SECTION 6
T24S-R26E EDDY CO. NM

In response to questions asked under Section II of Bulletin NTL-6, the following information on the above will is provided for your information.

1. LOCATION: 450' FSL & 1875' FEL SECTION 6 T24S-R26E EDDY CO. NM

2. ELEVATION ABOVE SEA LEVEL: 3760' GL

3. GEOLOGIC NAME OF SURFACE FORMATION: Quaternery Aeolian Deposits.

4. DRILLING TOOLS AND ASSOCIATED EQUIPMENT: Conventional rotary drilling rig using drilling mud as a circulating medium for solids removal from hole.

5. PROPOSED DRILLING DEPTH: 12,380'

6. ESTIMATED TOPS OF GELOOGICAL MARKERS:

Bone Spring	5509'	Strawn	10,309'
Wolfcamp	8909'	Atoka	10,939'
Cisco	9784'	Morrow	11,259'
Canyon	10,009'	Lower Morrow	11,939'
		TD (MD)	12,380'

7. POSSIBLE MINERAL BEARING FORMATION:

Bone Spring	Oil
Strawn	Gas

8. CASING PROGRAM:

Hole Size	Interval	OD of Casing	Weight	Thread	Collar	Grade	
26"	0-80'	20"	NA	NA	NA	Conductor	New
17½"	0-400'	13 3/8"	48#	8-R	ST&C	H-40	New
12¼"	0-2000'	9 5/8"	40#	BTC	BTC	J-55	New
8 3/4"	0-12,380'	5½"	20#	8-R	LT&C	P-110	New

APPLICATION TO DRILL

ENCORE OPERATING, L.P.
CK "6" FEDERAL # 1
UNIT "O" SECTION 6
T24S-R26E EDDY CO. NM

9. CASING CEMENTING & SETTING DEPTHS:

20"	Conductor	Set 80' of 20" conductor pipe and cement to surface with Redi-mix.
13 3/8"	Surface	Set 400' of 13 3/8" 48# H-40 ST&C casing. Cement with 160 SX. of Halco-Light Premium Plus cement + .125# Celoflakes/Sx Yield 1.96 cu'/Sx., Tail in with 205 Sx. of premium plus cement + 1% CaCl, Yield 1.34 cu'/Sx., follow with 205 Sx. of premium plus cement + 2% CaCl, Yield 1.35 cu'/Sx. Circulate cement to surface.
9 5/8"	Intermediate	Set 2000' of 9 5/8" 40# J-55 BT&C casing. Cement with 445 Sx. of Interfill Class "C" cement Yield 2.78 cu'/Sx. tail in with 220 Sx. of premium plus cement + additives, Yield 1.33 cu'/Sx. circulate cement to surface.
5½"	Production	Set 12,380' of 5½" 20# P-110 LT&C casing. Cement in two stqges with the DV Tool at 7000'±. Cement 1st stage with 380 Sx. of Class "H" Interfill, Yield 2.79 cu'/Sx, tail in with 640 Sx. of Super Class "H" + .4% LAP-1 + .3%CFR-3 + 1# Salt/Sx. + .25 lbm/SxD-Air3000 + .2% HR-7 Yield 1.61 cu'/Sx. . 2nd stage cement with 925 Sx. of Interfill Class "H" Yield 2.48 cu'/Sx., tail in with 190 Sx. of Premium Plus Class "H" cement + additives. Yield 1.19 cu'/Sx. Estimate TOC surface.

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" shows a 10,000 PSI working pressure B.O.P. Consting of pipe rams, spool, pipe rams, blind rams, and a 5000PSI annular preventor. The B.O.P. will be nipped up on the 13 3/8" casing and tested to API specifications after each casing string is cemented. The pipe rams will be worked at least once in each 24 hour period and the blind rams will be worked when the drill pipe is out of hole on trips. Full opening Stabbing valve an upper kelly cock will be available on the rig floor at all times. Exhibit "E-1" shows a hydraulically operated closing unit and a 3" 10,000 PSI choke manifoldwith manual choke and remotely controled chokes. No abnormal pressures or abnormal temperatures are expected while drilling this well..

see COA

3. Mud Program:

Spud with bentonite/lime type mud having a 38-42 sec/qt viscosity and drill to 13-3/8" casing point at 400 feet. Drill out the 13-3/8" casing with 10.0-10.1 brine water. Set 9-5/8" casing at 2,000 feet. Drill out with 9.0 ppg cut brine. Drill from 2,000' to mud-up at

see COA

9,000' with 9.0-9.6 ppg brine water. Mud-up brine water with Duo Vis, Poly Pac R and My-Lo-Jel at 9,600 feet. Maintain a 38-44 sec/qt viscosity, 12.0-8.0 cc fluid loss and 9.6-9.8 ppg mud weight after mud up to 10,200 feet. To drill from the top of the Strawn expected at 10,309' TVD to total depth mud weights of 9.8-10.5 ppg are expected. Mud filtrate will be reduced to 8.0-6.0 cc by 10,200 feet and maintained at these values to TD. Lost circulation material will be added, as needed. A H_2S scavenger chemical will be added to the mud system after drilling out the 9-5/8" shoe and maintain to TD. H_2S training and safety equipment will be operations from the drilling out of the 9-5/8" casing to TD.

Drilling Fluid Properties

Depth (MD)	MW (ppg.)	Viscosity	PV	YP	API FL	pH	Drill Solids
0-400	8.8-9.2	38-42			NC	9.5-10.0	4-5%
400-2,000	10.0-10.1	28	1	1	NC	9.5-10.0	≤1.5%
2,000-9,600	9.0-9.6	28-30	1-2	1-2	NC	9.5-10.0	≤1.5%
9,600-10,200	9.6-9.8	38-44	10-12	10-15	12-8	9.5-10.5	≤5%
10,200-TD	9.8-10.5	38-44	10-12	10-15	8-6	10-10.5	≤5%

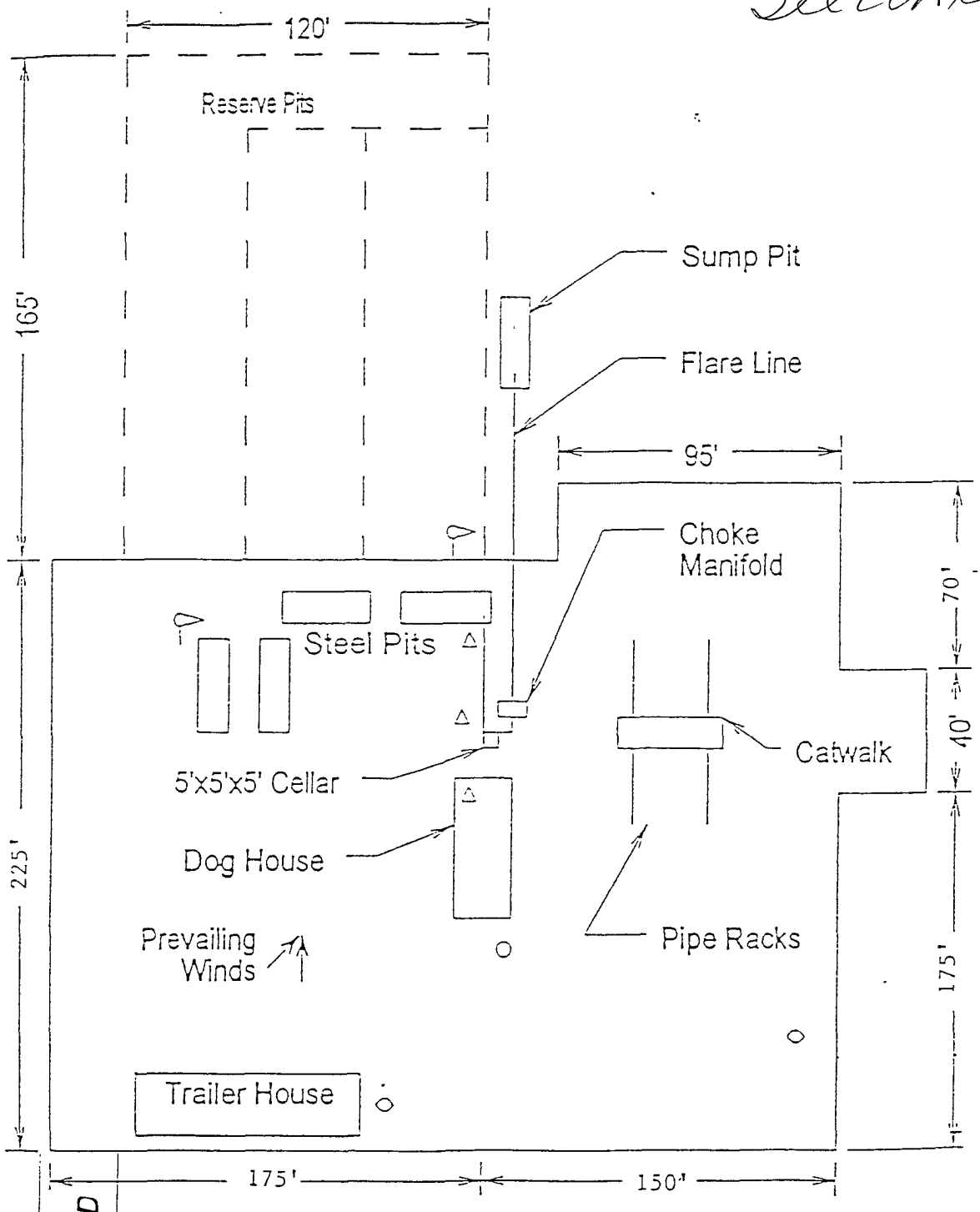
Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run open hole logs and casing the water loss and viscosity may have to be altered in order to meet these requirements.

ENCORE OPERATING, L. P.
CK "6" FEDERAL # 1
UNIT "O" SECTION 6
T24S-R26E EDDY CO. NM

CASING DESIGN FACTORS:

COLLAPSE		1.125
BURST		1.00
TENSION	8-R	1.8
	BUTRESS	1.6
	BODY	1.5

See COA's



□ Wind Direction Indicators (wind sock or streamers)

△ H2S Monitors (alarms at bell nipple and shale shaker)

○ Briefing Areas

○ Remote BOP Closing Unit

□ Sign and Condition Flags

EXHIBIT "D"
RIG LAY OUT PLAT

ENCORE OPERATING. L.P.
CK "6" FEDERAL # 1
UNIT "O" SECTION 6
T24S-R26E EDDY CO. NM

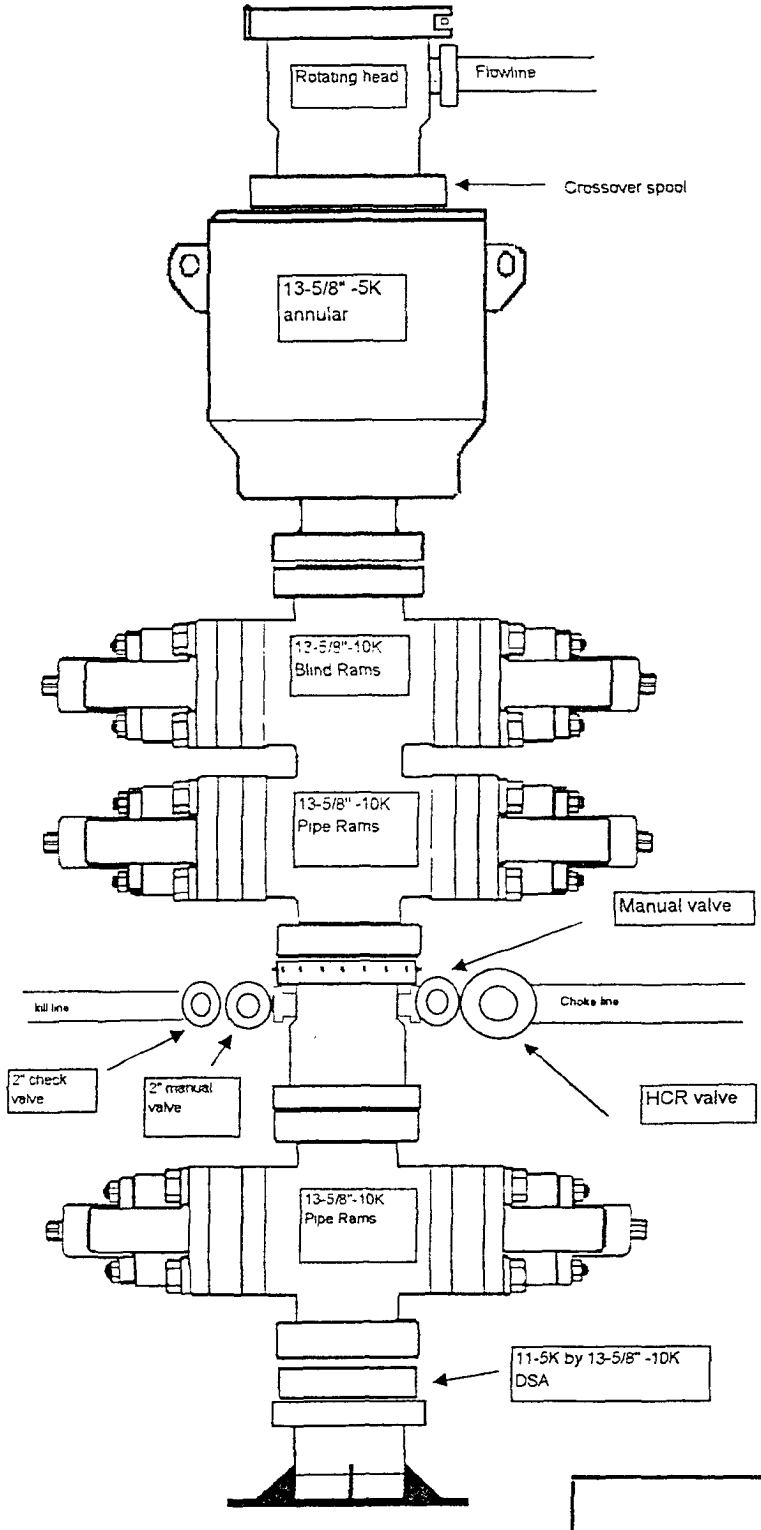
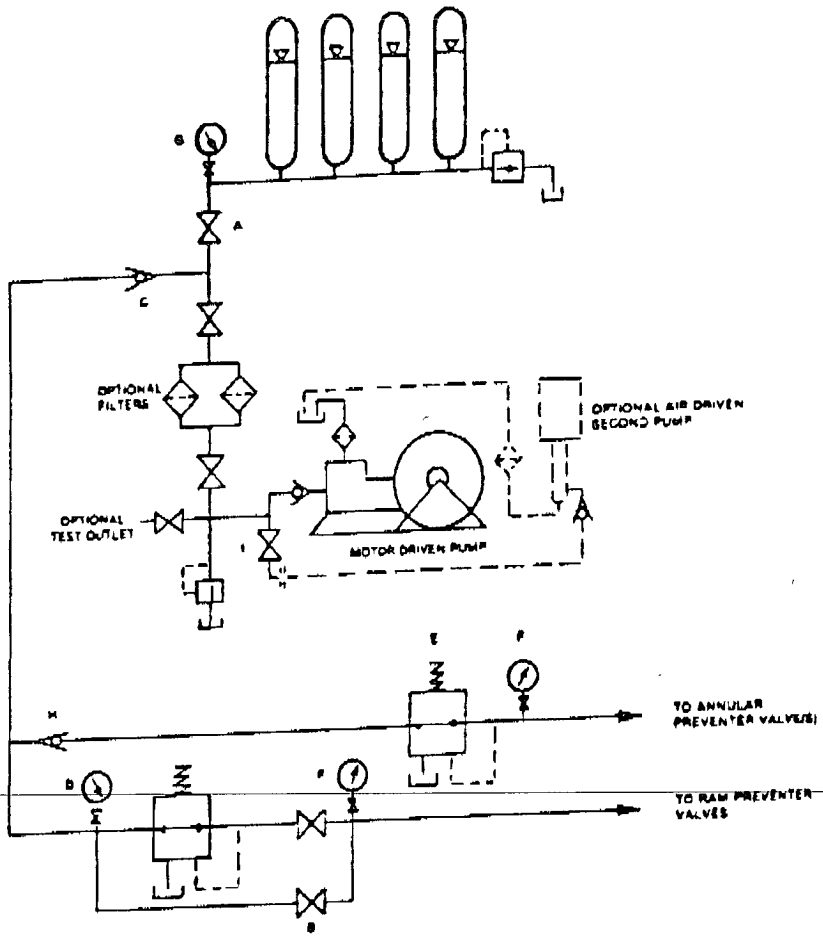


EXHIBIT "E"
SKETCH OF B.O.P. TO BE USED ON

ENCORE OPERATING, L.P.
CK "6" FEDERAL # 1
UNIT "O" SECTION 6
T24S-R26E EDDY CO. NM



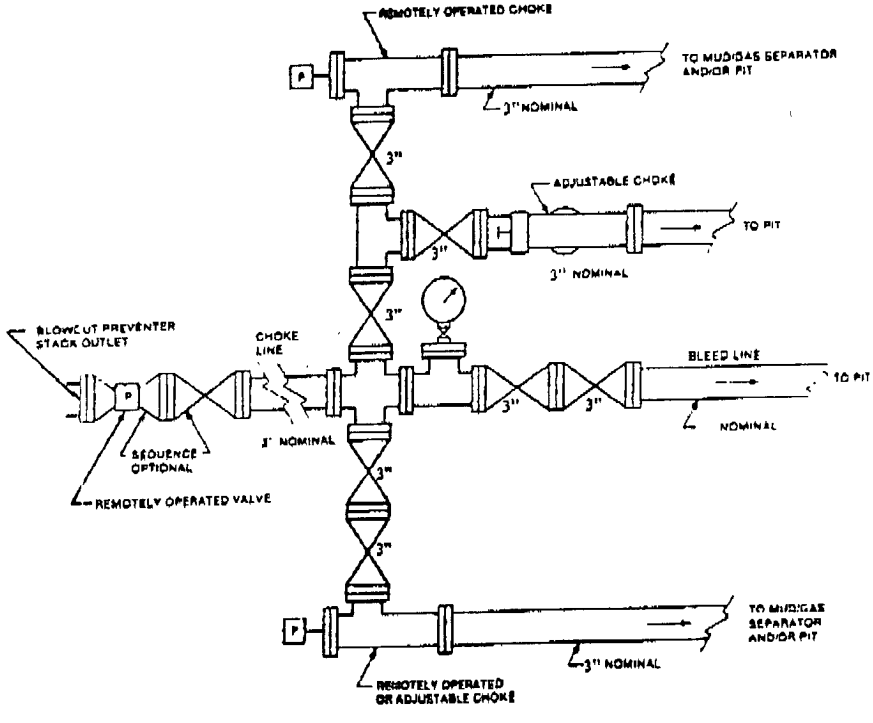


FIGURE K4.1 Typical choke manifold assembly for 10M and 15M rated

Encore Operating, L.P.
A subsidiary of
Encore Acquisition
Company

Encore Operating, L.P.

Eddy Co., New Mexico
CK '6' Federal #1
CK '6' Federal #1
Wellbore #1

Plan: Plan #1

Standard Survey Report

02 October, 2007

BLACK VIPER
ENERGY SERVICES, LTD.

Black Viper Energy

Survey Report

Company:	Encore Operating, L.P.	**Local Co-ordinate Reference:**	Well CK '6' Federal #1
Project:	Eddy Co., New Mexico	**TVD Reference:**	WELL @ 3760.00ft (Original Well Elev)
Site:	CK '6' Federal #1	**MD Reference:**	WELL @ 3760.00ft (Original Well Elev)
Well:	CK '6' Federal #1	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 2003.14.1.0 Server DB

Project Eddy Co., New Mexico

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Ground Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		Using geodetic scale factor

Site CK '6' Federal #1

Site Position:		**Northing:**	451,011 25 ft	**Latitude:**	32° 14' 23.800 N
From:	Lat/Long	**Easting:**	501,169 03 ft	**Longitude:**	104° 19' 46 400 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	"	**Grid Convergence:**	0.00 °

Well CK '6' Federal #1

Well Position	**+N/-S**	0.00 ft	**Northing:**	451,011.25 ft	**Latitude:**	32° 14' 23.800 N
	+E/-W	0.00 ft	**Easting:**	501,169.03 ft	**Longitude:**	104° 19' 46.400 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	0.00 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/2/2007	8.35	60.16	48,901

Design Plan #1

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	7,000 00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	17.01

Survey Tool Program Date 10/2/2007

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
7,000.00	12,379 77	Plan #1 (Wellbore #1)		

Planned 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)
7,000 00	0.00	0 00	7,000 00	0.00	0 00	0.00	0.00	0 00	0 00
KOP - Build 2.50° / 100									
7,100 00	2.50	17 01	7,099.97	2.09	0.64	2.18	2 50	2.50	0.00
7,200 00	5.00	17 01	7,199.75	8 34	2.55	8.72	2 50	2.50	0.00
7,300.00	7.50	17.01	7,299.14	18.75	5.74	19 61	2.50	2.50	0 00
7,400.00	10.00	17.01	7,397.97	33.29	10.19	34.82	2.50	2.50	0.00
EOB - Hold 10.0° Inc. :: 17.01° Azi.									
7,500.00	10 00	17.01	7,496 45	49 90	15.27	52.18	0 00	0.00	0 00
7,600.00	10.00	17.01	7,594.93	66 51	20.35	69.55	0 00	0.00	0.00
7,700.00	10.00	17.01	7,693.41	83.11	25.43	86 91	0.00	0.00	0 00
7,800.00	10.00	17 01	7,791.90	99 72	30.51	104.28	0.00	0.00	0.00
7,900.00	10 00	17 01	7,890.38	116 32	35.59	121 64	0 00	0.00	0 00
8,000 00	10 00	17.01	7,988 86	132.93	40.66	139.01	0.00	0 00	0.00

Company:	Encore Operating, L.P.	Local Co-ordinate Reference:	Well CK '6' Federal #1
Project:	Eddy Co., New Mexico	TVD Reference:	WELL @ 3760.00ft (Original Well Elev)
Site:	CK '6' Federal #1	MD Reference:	WELL @ 3760.00ft (Original Well Elev)
Well:	CK '6' Federal #1	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 2003.14.1.0 Server DB

Planned 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)
8,100 00	10.00	17.01	8,087.34	149.53	45.74	156.37	0.00	0 00	0.00
8,200.00	10.00	17.01	8,185.82	166 14	50.82	173.74	0 00	0.00	0.00
8,300 00	10 00	17.01	8,284.30	182.74	55.90	191.10	0.00	0.00	0.00
8,400.00	10.00	17.01	8,382.78	199 35	60.98	208.47	0.00	0.00	0.00
8,500.00	10.00	17.01	8,481.26	215.95	66.06	225.83	0.00	0.00	0.00
8,541.00	10.00	17.01	8,521.64	222.76	68.15	232.95	0.00	0 00	0.00
Drop -2.50° / 100									
8,600.00	8.52	17.01	8,579.87	231.84	70.93	242.45	2.50	-2.50	0.00
8,700.00	6.02	17.01	8,679.05	243.95	74.63	255.11	2.50	-2.50	0.00
8,800.00	3.52	17.01	8,778.70	251.91	77.06	263.43	2.50	-2.50	0.00
8,900 00	1.02	17.01	8,878 61	255.70	78.23	267.40	2.50	-2.50	0.00
8,941.00	0.00	0.00	8,919.61	256 05	78.33	267.77	2.50	-2.50	0 00
EOD - Hold 0.0° Inc. :: 360.0° Azi.									
9,000.00	0.00	0.00	8,978.61	256.05	78.33	267.77	0.00	0.00	0.00
9,100.00	0.00	0.00	9,078.61	256.05	78.33	267.77	0.00	0.00	0.00
9,200.00	0.00	0.00	9,178.61	256.05	78.33	267.77	0.00	0.00	0.00
9,300.00	0.00	0 00	9,278 61	256 05	78.33	267.77	0.00	0.00	0.00
9,400.00	0 00	0 00	9,378 61	256 05	78.33	267.77	0.00	0.00	0 00
9,500.00	0.00	0.00	9,478.61	256 05	78.33	267.77	0 00	0.00	0.00
9,600.00	0.00	0.00	9,578.61	256 05	78.33	267.77	0.00	0.00	0.00
9,700.00	0.00	0.00	9,678.61	256 05	78.33	267.77	0.00	0.00	0.00
9,800.00	0.00	0.00	9,778.61	256.05	78.33	267.77	0 00	0.00	0.00
9,900 00	0.00	0.00	9,878.61	256.05	78.33	267.77	0 00	0 00	0 00
10,000 00	0.00	0.00	9,978.61	256.05	78.33	267.77	0 00	0.00	0.00
10,100.00	0 00	0.00	10,078.61	256 05	78.33	267 77	0.00	0 00	0.00
10,200 00	0 00	0 00	10,178.61	256.05	78 33	267.77	0.00	0.00	0.00
10,300.00	0 00	0.00	10,278 61	256.05	78.33	267.77	0 00	0 00	0 00
10,400.00	0.00	0.00	10,378.61	256.05	78.33	267.77	0.00	0.00	0.00
10,500.00	0 00	0.00	10,478.61	256.05	78.33	267.77	0.00	0.00	0.00
10,600.00	0 00	0.00	10,578.61	256.05	78.33	267.77	0 00	0 00	0 00
10,700.00	0.00	0.00	10,678.61	256 05	78 33	267.77	0.00	0.00	0 00
10,800.00	0.00	0.00	10,778 61	256 05	78 33	267.77	0.00	0.00	0.00
10,900.00	0.00	0 00	10,878 61	256 05	78 33	267.77	0.00	0.00	0 00
11,000.00	0.00	0 00	10,978.61	256 05	78 33	267.77	0 00	0.00	0 00
11,100 00	0.00	0.00	11,078 61	256.05	78.33	267.77	0.00	0.00	0.00
11,200 00	0 00	0.00	11,178.61	256.05	78 33	267.77	0.00	0.00	0.00
11,300 00	0 00	0.00	11,278.61	256 05	78 33	267.77	0 00	0.00	0.00
11,400.00	0.00	0 00	11,378 61	256 05	78 33	267 77	0.00	0.00	0 00
11,500 00	0.00	0.00	11,478.61	256 05	78 33	267 77	0.00	0.00	0.00
11,600 00	0 00	0.00	11,578.61	256.05	78.33	267.77	0.00	0.00	0.00
11,700 00	0 00	0 00	11,678.61	256 05	78.33	267.77	0 00	0 00	0.00
11,800.00	0.00	0 00	11,778.61	256 05	78.33	267 77	0.00	0.00	0.00
11,900.00	0 00	0 00	11,878 61	256 05	78.33	267.77	0.00	0.00	0.00
12,000.00	0.00	0.00	11,978.61	256 05	78 33	267.77	0.00	0 00	0 00
12,100.00	0.00	0 00	12,078 61	256.05	78.33	267.77	0.00	0.00	0.00
12,200 00	0.00	0.00	12,178.61	256.05	78 33	267.77	0.00	0.00	0.00
12,300 00	0 00	0.00	12,278.61	256.05	78.33	267.77	0.00	0 00	0.00
12,380 39	0.00	0.00	12,359.00	256.05	78.33	267.77	0 00	0 00	0.00
PBHL#1[CK6Fed#1]									

Company:	Encore Operating, L.P.	**Local Co-ordinate Reference:**	Well CK '6' Federal #1
Project:	Eddy Co., New Mexico	**TVD Reference:**	WELL @ 3760.00ft (Original Well Elev)
Site:	CK '6' Federal #1	**MD Reference:**	WELL @ 3760.00ft (Original Well Elev)
Well:	CK '6' Federal #1	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	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
x	0 00	0.00	8,900.00	-450.00	0.00	450,561.30	501,169.03	32° 14' 19.347 N	104° 19' 46.400 W
- plan misses by 710.27ft at 8915.15ft MD (8893.76 TVD, 255.92 N, 78.29 E) - Circle (radius 660.00)									
PBHL#1[CK6Fed#1]	0.00	0.00	12,359.00	252.64	77.29	451,263.88	501,246.32	32° 14' 26.300 N	104° 19' 45.500 W
- plan misses by 3 57ft at 12380.39ft MD (12359 00 TVD, 256.05 N, 78.33 E) - Point									

Plan Annotations

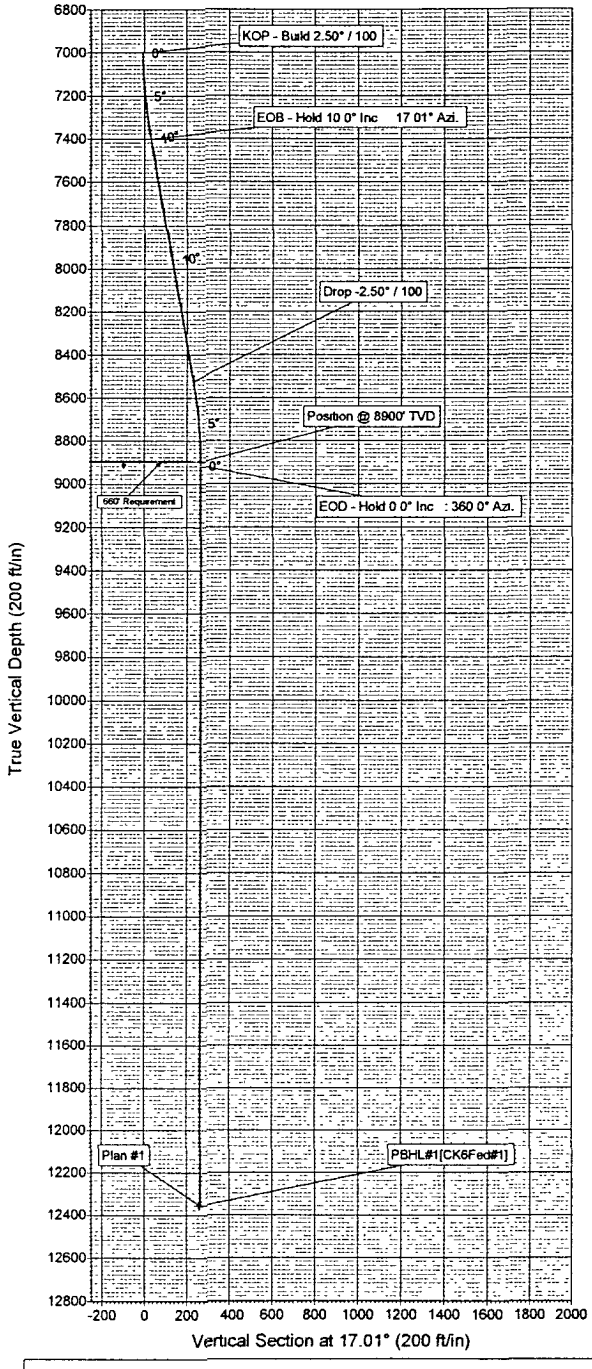
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
7,000 00	7,000.00	0.00	0.00	KOP - Build 2 50° / 100
7,400.00	7,397.97	33 29	10.19	EOB - Hold 10.0° Inc. :. 17.01° Azi.
8,541.00	8,521.64	222.76	68 15	Drop -2.50° / 100
8,941.00	8,919.61	256.05	78.33	EOD - Hold 0.0° Inc :: 360.0° Azi.

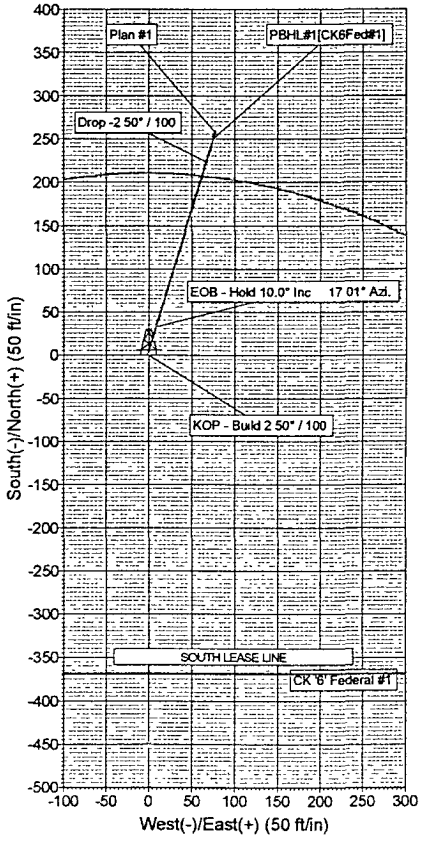
Checked By: _____ Approved By: _____ Date: _____

Encore Operating, L.P.
A subsidiary of Encore Acquisition Company

Project: Eddy Co., New Mexico
Site: CK '6' Federal #1
Well: CK '6' Federal #1
Wellbore: Wellbore #1
Plan: Plan #1 (CK '6' Federal #1/Wellbore #1)

BLACK VIPER ENERGY SERVICES, LTD.

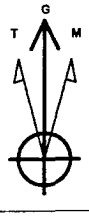




PROJECT DETAILS: Eddy Co., New Mexico

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001

System Datum: Ground Level



Azimuths to Grid North
True North: -0.00°
Magnetic North: 8.35°

Magnetic Field
Strength: 48900.5nT
Dip Angle: 60.16°
Date: 10/2/2007
Model: IGRF200510

ANNOTATIONS

TVD	MD	Annotation
7000.00	7000.00	KOP - Build 2.50° / 100
7397.97	7400.00	EOB - Hold 10.0° Inc, 17.01° Azi
8521.64	8541.00	Drop -2.50° / 100
8919.61	8941.00	EOD - Hold 0.0° Inc, 360.0° Azi.

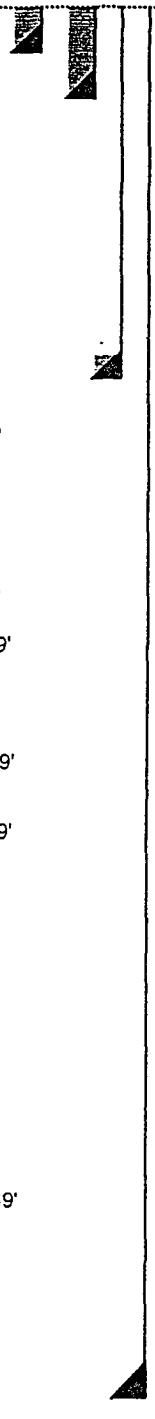
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	7000.00	0.00	0.00	7000.00	0.00	0.00	0.00	0.00	0.00	
2	7400.00	10.00	17.01	7397.97	33.29	10.19	2.50	17.01	34.82	
3	8541.00	10.00	17.01	8521.64	222.76	68.15	0.00	0.00	232.95	
4	8941.00	0.00	0.00	8919.61	256.05	78.33	2.50	180.00	267.77	
5	12380.39	0.00	0.00	12359.00	256.05	78.33	0.00	0.00	267.77	PBHL#1[CK6Fed#1]

Plan: Plan #1 (CK '6' Federal #1/Wellbore #1)
Created By: L.D. Burton Date: October 2, 2007

AFE No.	Encore Operating, L. P.	AFE Information
API No.	C K "6" Federal No. 1	Dry Hole:
Permit No.		Completed:
	Proposed Wellbore Sketch	Proposed TD: 12,380' MD, 12,359' TVD

Drilling Considerations	Wellbore Information	Casing Info / Mud Info / Hole Size / Cement Specs



All geologic depths are TVD

Delaware.....

Bone Spring.....5,509'

Wolfcamp.....8,909

Cisco.....9,784'

Canyon.....10,009'

Strawn.....10,309'

Atoka.....10,939'

Morrow.....11,259'

Morrow Lower.....11,939'

20" conductor pre-set to 80'
Spud w/ 17-1/2" bit
Circulate cmt to surf behind 13-3/8" csg.
13-3/8" 48.0 ppf H-40 STC at 400'

Drill a 12-1/4" hole

Circ cement to surface

9-5/8", 40.0 ppf., J-55 BTC @ 2,000'

Drill out w/8-3/4" bit
Circulate cement to surface behind 5-1/2" casing
DV Tool @ 7,000'

9.0-9.6 ppg cut brine to 9,600'.
Mud-up brine water @ 9,600' w/Duo Vis/Poly Pac & My-Lo-Jel system. MW 9.6-9.8 ppg @ mud-up point.

MW from top of Strawn to TD 9.8-10.0 ppg

5-1/2", 20.0 ppf., P-110 HC LTC from 0-TD

Proposed TD 12,380 MD (12,359' TVD)

Well Information

Surface Location: 450' FSL, 1875' FEL, Sec. 6, T24S-R26E, Eddy County, New Mexico

Bottom Hole Location:700' FSL & 1800' FEL, Sec. 6, T24S-R26E

INTEROFFICE MEMO

To: **Joe Janica**
From: **Don Wood**
Date: **10/3/07**
Subject: **Application to Drill Information for C K "6" Federal #1**

As you have requested I am providing you with the casing design, cementing program, mud program and directional plan so you can prepare an APD for this well.

1. Casing String Design:

Size	Interval	Weight	Grade	Thread	Burst	Collapse	Jt. Str.
20	0-100	94.0					
13-3/8	0-400	48.0	H-40	STC	1730	740	322000
9-5/8"	0-2,000	40.0	J-55	BTC	3950	2570	843000
5-1/2	0-12,380	20.0	P-110	LTC	12630	11100	548000

Collapse, burst and joint strength are minimum values with no safety factor. The drift through the 20" is 19.125 inches, through the 13-3/8" it is 12.559", the 9-5/8" casing drifts 8.75" and the 5-1/2" liner drifts 4.653 inches.

The 20" conductor will be set in a 26" hole, the 13-3/8" casing in a 17-1/2" hole, the 9-5/8" in a 12-1/4" hole and the 5-1/2" set in an 8-3/4" hole.

2. Cementation:

Casing Size	Cement Slurry	Properties	Property Values
20"	Redi-mix		

Casing Size	Cement Slurry	Properties	Property Values
	STAGE 1		
13-3/8"	Spacer : 20 bbls FW		
	Lead with 160 sacks Halliburton Light Premium Plus + 0.125 lbm/sk Poly-E-Flake	Fluid Weight:	12.50 lb/gal
		Fluid Yield:	1.96 cu ft/sk
		Amount of mix water:	10.90 gal/sk
		Top of Fluid:	0 ft
		Calculated Fill:	230ft
		12 hr Comp. Strength	150 psi
		24 hr Comp. Strength	250 psi
	Tail with 205 sacks Premium Plus Cement with 94 lbm/sk Premium Plus Cement + 1% $CaCl_2$	Fluid Weight:	14.80 lb/gal
		Fluid Yield:	1.34 cu ft/sk
		Amount of mix water:	6.36 gal/sk
		Top of Fluid:	230 ft
		Calculated Fill:	170 ft
		12 hr Comp. Strength	1024
		24 hr Comp. Strength	1621
	Tail with 205 sacks Premium Plus Cement with 94 lbm/sk Premium Plus Cement + 2% $CaCl_2$	Fluid Weight:	14.80 lb/gal
		Fluid Yield:	1.35 cu ft/sk
		Amount of mix water:	6.39 gal/sk
		Top of Fluid:	300 ft
		Calculated Fill:	200 ft
		12 hr Comp. Strength	
		24 hr Comp. Strength	
		48 hr Comp. Strength	

Cement will be circulated back to surface behind 13-3/8" casing.

Casing Size	Cement Slurry	Properties	Property Values
	Stage 1		
9-5/8"	Spacer: 20 bbls of FW		20.0 bbls
	Lead Slurry: 445 sacks Interfill C	Fluid Weight:	11.5 ppg
		Fluid Yield:	2.78cu ft/sk
		Amount of mix water:	16.62 gal/sk
		Top of Fluid:	Surface
		Calculated Fill:	1,600 ft.
		12 hr Comp. Strength	95 psi
		24 hr Comp. Strength	175 psi
		48 hr Comp. Strength	225 psi
	Tail Slurry: 220 sacks Premium Plus Cement w/94 lbm/sk Premium Plus Cement	Fluid Weight:	14.80 ppg
		Fluid Yield:	1.33cu ft/sk
		Amount of mix water:	6.34 gal/sk
		Top of Fluid:	1600 ft.
		Calculated Fill:	400 ft.
		12 hr Comp. Strength	510 psi
		24 hr Comp. Strength	910 psi
		48 hr Comp. Strength	1260 psi

Cement will be circulated back to surface behind 9-5/8" casing.

Casing Size	Cement Slurry	Properties	Property Values
	Stage 1		
5-1/2"	Spacer: 500 gals Super Flush 102		11.9 bbls
	Stage 1 Lead Slurry: 380 sacks Interfill H	Fluid Weight:	11.5 ppg
		Fluid Yield:	2.79cu ft/sk
		Amount of mix water:	16.74 gal/sk
		Top of Fluid:	7000 ft.
		Calculated Fill:	2800 ft.
		12 hr Comp. Strength	95 psi
		24 hr Comp. Strength	175 psi
		48 hr Comp. Strength	225 psi
	Stage 1 Tail Slurry: 640 sacks Super H Cement + 0.4% LAP-1, + 0.3 %	Fluid Weight:	13.20 ppg

	CFR-3 + 1.0 lbm/sk Salt + 0.25 lbm/sk D-Air 3000 + 0.2% HR-7		
		Fluid Yield:	1.61cu ft/sk
		Amount of mix water:	8.39 gal/sk
		Top of Fluid:	9800 ft.
		Calculated Fill:	2580 ft.
		12 hr Comp. Strength	510 psi
		24 hr Comp. Strength	910 psi
		48 hr Comp. Strength	1260 psi
	DV tool @ ±7,000' TVD.		
	Stage 2		
	Spacer: 20 bbls FW		
	Stage 2 Lead Slurry: 925 sacks Interfill H	Fluid Weight:	11.90 ppg
		Fluid Yield:	2.48 cu ft/sk
		Amount of mix water:	14.41 gal/sk
		Top of Fluid:	0 ft.
		Calculated Fill:	6400 ft.
		12 hr Comp. Strength	95 psi
		24 hr Comp. Strength	175 psi
		48 hr Comp. Strength	225 psi
	Stage 2 Tail Slurry: 190 sacks Premium Cement w/94 lbm/sk Premium Cement	Fluid Weight:	15.60 ppg
		Fluid Yield:	1.19 cu ft/sk
		Amount of mix water:	5.39 gal/sk
		Top of Fluid:	6,400 ft.
		Calculated Fill:	600 ft.
		12 hr Comp. Strength	1210 psi
		24 hr Comp. Strength	1825 psi
		48 hr Comp. Strength	2380 psi

Cement will be circulated back to surface on 5-1/2" string.

3. Mud Program:

Spud with bentonite/lime type mud having a 38-42 sec/qt viscosity and drill to 13-3/8" casing point at 400 feet. Drill out the 13-3/8" casing with 10.0-10.1 brine water. Set 9-5/8" casing at 2,000 feet. Drill out with 9.0 ppg cut brine. Drill from 2,000' to mud-up at

9,000' with 9.0-9.6 ppg brine water. Mud-up brine water with Duo Vis, Poly Pac R and My-Lo-Jel at 9,600 feet. Maintain a 38-44 sec/qt viscosity, 12.0-8.0 cc fluid loss and 9.6-9.8 ppg mud weight after mud up to 10,200 feet. To drill from the top of the Strawn expected at 10,309' TVD to total depth mud weights of 9.8-10.5 ppg are expected. Mud filtrate will be reduced to 8.0-6.0 cc by 10,200 feet and maintained at these values to TD. Lost circulation material will be added, as needed. A H_2S scavenger chemical will be added to the mud system after drilling out the 9-5/8" shoe and maintain to TD. H_2S training and safety equipment will be operations from the drilling out of the 9-5/8" casing to TD.

Drilling Fluid Properties

Depth (MD)	MW (ppg.)	Viscosity	PV	YP	API FL	pH	Drill Solids
0-400	8.8-9.2	38-42			NC	9.5-10.0	4-5%
400-2,000	10.0-10.1	28	1	1	NC	9.5-10.0	≤1.5%
2,000-9,600	9.0-9.6	28-30	1-2	1-2	NC	9.5-10.0	≤1.5%
9,600-10,200	9.6-9.8	38-44	10-12	10-15	12-8	9.5-10.5	≤5%
10,200-TD	9.8-10.5	38-44	10-12	10-15	8-6	10-10.5	≤5%

3. Directional Program:

This will be a directional well. The well bore will be kicked off at ±7,000' MD. A build rate of 2.50°/100' will be held until a 10° inclination is achieved and an azimuth of 17° at ±7,400 feet. From 7,400 to ±8,541' an inclination of 10° and 17° azimuth will be held. At ±8,541' MD the inclination will be dropped at 2.50°/100' until the inclination and azimuth are both zero at ±8,941 MD (8,921' TVD). From 8,941' MD to TD at 12,380' MD (12,359' TVD) the inclination and azimuth will be held at zero. See attached directional plan for further details.

12. LOGGING, COREING, AND TESTING PROGRAM:

A. Open hole logs: Dual Laterolog, Density, Neutron ,SNP LDT, Fullwave Sonic Gamma Ray and Caliper from TD back to 9 5/8" casing shoe.

B. Cased hole log: Run Gamma Ray Neutron from 9 5/8" casing shoe back to surface.

C. No DST's, cores, or mud logger is planned at this time.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. There is no known presence of H^2S in this area. If H^2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 6500 PSI, and Estimated BHT 195°.

14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operation and drilling is expected to take 45 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flowlines in order to place well on production.

15. OTHER FACETS OF OPERATIONS:

After running casing, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The Morrow formation will be perforated and stimulated in order to establish production. The well will be swab tested and potentialed as a gas well.

SURFACE USE PLAN

ENCORE OPERATING, L.P.
CK "6" FEDERAL # 1
UNIT "O" SECTION 6
T24S-R26E EDDY CO. NM

1. EXISTING AND PROPOSED ROADS:

A. Exhibit "B" is a reporduction of a County General Hi-way map showing existing roads. Exhibit "C" is a reproduction of a USGS topographic map showing existing roads and and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. All new roads will be constructed to BLM specifications.

B. Exhibit "A" shows the proposed well site as staked.

C. Directions to location: From Carlsbad New Mexico take U. S. Hi-way 62-180 Southwest 12± miles turn Right on caliche road, immediately turn Left follow road .3- miles, turn Right go .42 miles, turn Left, follow main road for 1.1 miles turn Right on new road and go .3 miles to location.

D. Exhibit "C" shows roads leading to location and proposed roads.

2. PLANNED ACCESS ROADS: Approximately 1500' of new road will be required.

A. The access roads will be crowned and sitched to a 14' wide travel surface, within a 30' R-O-W.

B. Gradient of all roads will be less than 5%.

C. Turn-outs will be constructed where necessary.

D. If require new access roads will be surface with a minimum of 4-6" of caliche. this material will be obtained from a local source.

E. Center line for new roads will be flagged, road construction will be done as field conditions require.

F. Culverts will be placed in the access road as drainage conditions require. Roads will be constructed to use low water crossings for drainage as required by the topographic conditions.

3. LOCATION OF EXISTING WELLS WITHIN A ONE MILE RADIUS: EXHIBIT "A-1"

A. Water wells - One approximately one mile Northwest of location.

B. Disposal wells - None known

C. Drilling wells - None known

D. Producing wells - As shown on Exhibit "A-1"

E. Abandoned wells - As shown on Exhibit "A-1"

4. If on completion this well is a producer the operator will lay pipelines and construct powerlines along existing road R-O-W's or other existing R-O-W's. Exhibit "C" shows proposed routes of roads, flowlines and powerlines.

5. LOCATION AND TYPE OF WATER SUPPLY:

Water will be purchased locally from a commercial source and trucked over the access roads or piped to location in flexible lines laid on top of the ground.

6. SOURCE OF CONSTRUCTION MATERIAL:

If possible construction material will be obtained from the excavation of drill site, if additional material is needed it will be obtained from a local source and transported over the access roads as shown on Exhibit "C".

7. METHODS OF HANDLING WASTE MATERIAL:

A. Drill cuttings will be disposed of in the reserve pits.

B. All trash, junk and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed all contents will be removed and disposed of in a approved sanitary land fill.

C. Salts remaining after completion of well will be picked up by the supplier, including broken sacks.

D. Waste water from living quaters will be drained into holes with a minium of 10'. These holes will be covered during drilling and will be back filled when the well is completed. A Porto-John will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.

E. Remaining drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry enough to be broken out for furthed drying. If the drilling fluids do not evaporate in a reasonable time they will be hauled off by transports to a state approve disposal site. Later pips will be broken out to speed drying. Water produced during completion will be put in reserve pits. Oil and condensate produced will be put in storage tanks and sold.

8. ANCILLARY FACILITIES:

A. No camps or air strips will be constructed on location.

9. WELL SITE LAYOUT:

A. Exhibit "D" shows the proposed well site layout.

B. This Exhibit shows the location of reserve pit, sump pits, and living facilities.

C. Mud pits in the active circulating system will be steel pits and the reserve pits will be unlined unless subsurface conditions encontered during pit construction indicate that a plastic liner is required to contain lateral migration.

D. If needed the reserve pits will be lined with polyethelene. The pit liner will be no less than12 mils thick and the liner will be extended at least 3 feet over the top of the dikes and secured in place to keep edge of liner in place.

E. The reserve pit will be fenced on three sides and fenced with four strands of barbed wire during drilling and completionphases. The 4th side will be fenced after drilling operations are complete and the drilling rig has moved out.If the well is a producer the mud pits will remain fenced in until the mud has dried up enough to break out the pits and reclaimed according to BLM requirements.

10. PLANS FOR RESTORATION OF SURFACE:

Rehabilitation of the location and reserve pits will be allowed to dry properly, fluids may be moved and disposed of in accordance with article 7-E as previously noted. The pit area will then be leveled and contoured to conform to the original and surrounding area. Drainage systems, if any will be reshaped to the original configuration with provisions made to alleviate furture erosion. In case of the well completed as a producer the drilling pad will be necessary to construct production facilities. After the area has been shaped and contoured top soil from the spoil pile will be placed over the disturbed area to the extent possible so that revegetation procedures can be accomplished to comply with the BLM specifications.

If the well is a dry hole the pad and road area will be contoured to match the existing terrain. Top soil will be spread to the extent possible and revegetation will be carried out according to the BLM specifications.

Should the well be a producer the previously noted procedures will apply to those areas which are not required for production facilities.

CERTIFICATION

I HEREBY CERTIFY THAT I OR PERSONS UNDER MY SUPERVISION HAVE INSPECTED THE PROPOSED DRILL SITE AND THE ACCESS ROAD ROUTES, THAT I AM FAMILIAR WITH THE CONDITIONS THAT CURRENTLY EXIST, AND THAT THE STATEMENTS MADE IN THIS PLAN ARE TO THE BEST OF MY KNOWLEDGE ARE TRUE AND CORRECT, AND THAT THE WORK ASSOCIATED WITH THE OPERATIONS PROPOSED HEREIN WILL BE PERFORMED BY ENCORE OPERATING, L. P. ITS CONTRACTORS OR ITS SUB-CONTRACTORS IS IN CONFORMANCE WITH THIS PLAN AND THE TERMS AND THE CONDITIONS UNDER WHICH IT IS APPROVED. THIS STATEMENT IS SUBJECT TO THE PROVISIONS OF U.S.C. 1001 FOR THE FILING OF A FALSE STATEMENT.

OPERATORS REPRESENTATIVES

BEFORE CONSTRUCTION

JOE T. JANICA

TIERRA EXPLORATION, INC.
P. O. BOX 2188
HOBBS, NEW MEXICO 88241
- PHONE 505-391-8503
CELL 505-390-1598

DURING AND AFTER CONSTRUCTION

BILLY JUROSKA

ENCORE OPERATING, L. P..
777 MAIN STREET
SUITE 1400
PHONE 817-339-0788
CELL 817-915-7010

NAME: JOE T. JANICA Joe T Janica

DATE: 10/25/07

TITLE: AGENT

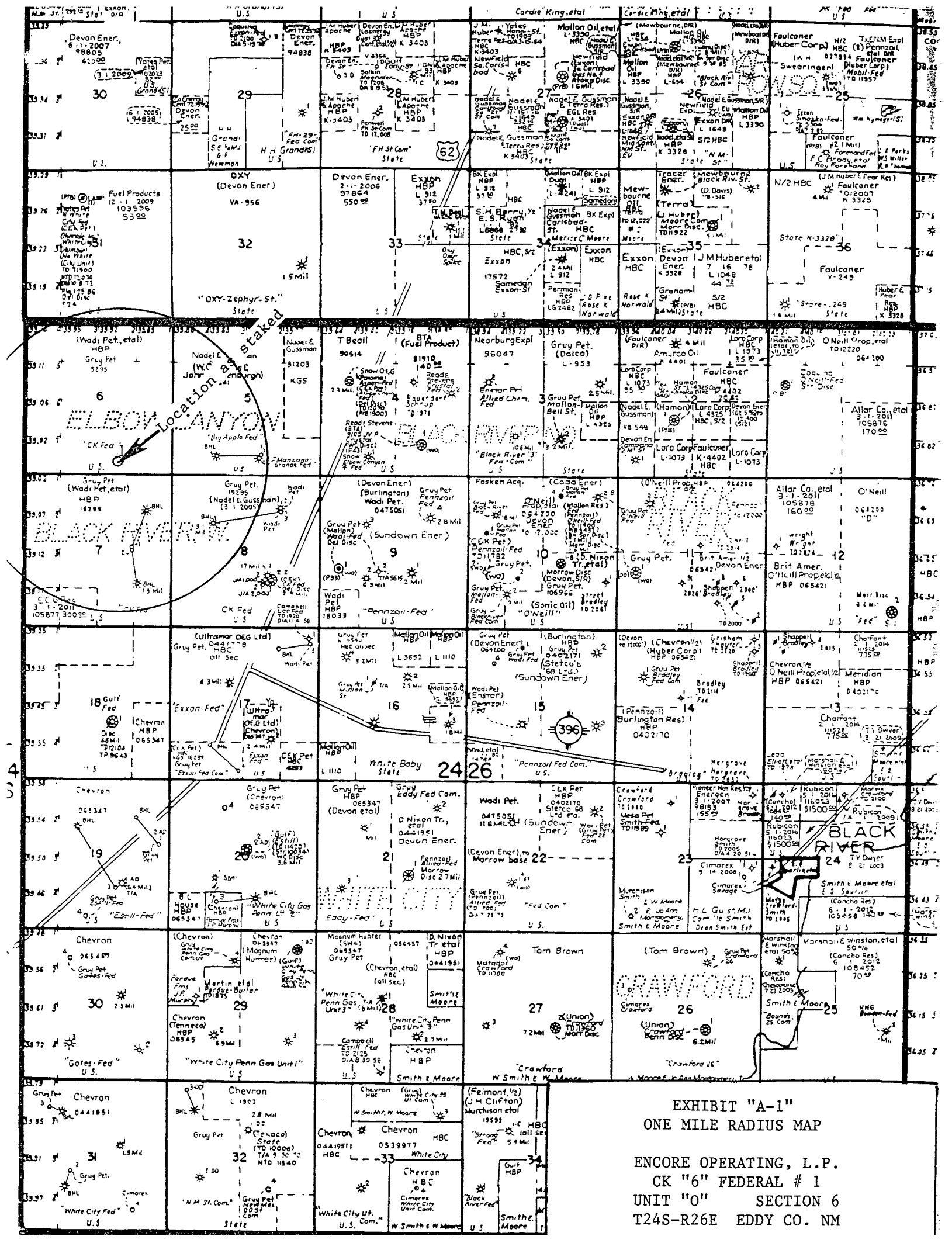


EXHIBIT "A-1"
ONE MILE RADIUS MAP

ENCORE OPERATING, L.P.
CK "6" FEDERAL # 1
UNIT "O" SECTION 6
T24S-R26E EDDY CO. NM

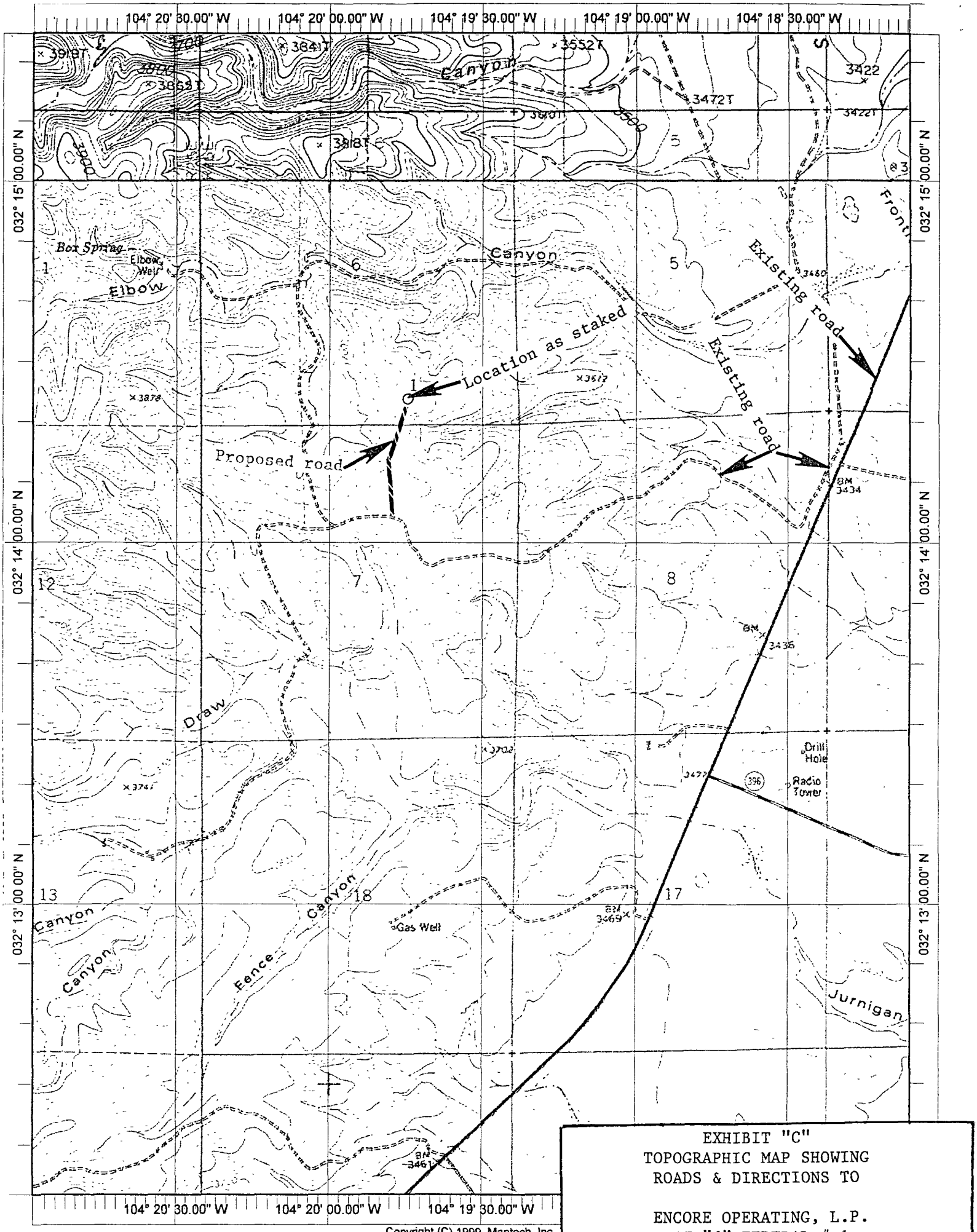
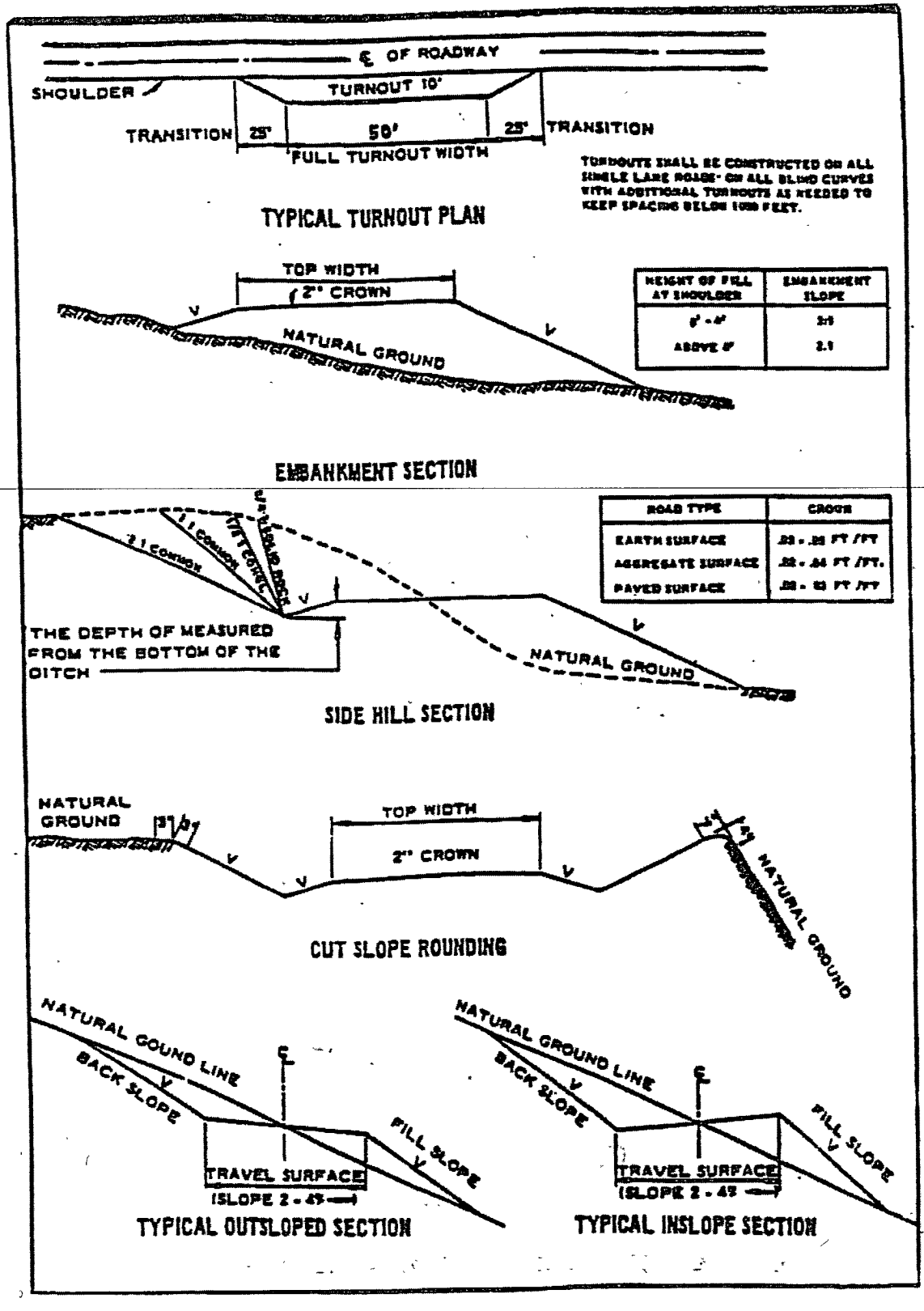


EXHIBIT "C"
TOPOGRAPHIC MAP SHOWING
ROADS & DIRECTIONS TO

ENCORE OPERATING, L.P.
CK "6" FEDERAL # 1
UNIT "O" SECTION 6
T24S-R26E EDDY CO. NM

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 2 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts to the BLM.**

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2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

B. CASING

1. The **13-3/8** inch surface casing shall be set at **approximately 400** feet and cemented to the surface. **Drilling operations below the surface casing should be done with fresh water mud for the Capitan Reef. If the Salado formation is encountered, brine mud should be used.**

   a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

   b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead

cement).

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial action will be done prior to drilling out that string.

High cave/karst.
Possible lost circulation in the Capitan Reef, Delaware, and Bone Spring formations.
Possible high pressure gas bursts in the Wolfcamp formation and the Pennsylvanian Section may be over pressured.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a-d above.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Both stages to circulate.**

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17. **Annular preventer to be 10M.**

2. The appropriate BLM office shall be notified a minimum of 2 hours in advance for a representative to witness the tests.

a. The tests shall be done by an independent service company.

b. The results of the test shall be reported to the appropriate BLM office.

c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be

submitted to the appropriate BLM office.

d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation **if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days**. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

Engineer on call phone (after hours): **Carlsbad: (575) 706-2779**

WWI 120807

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures
The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

VRM Facility Requirement
Low-profile tanks not greater than ten-feet-high shall be used.

IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

The operator should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

Seed Mixture 3, for Shallow Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorised officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species		lb/acre
Plains Bristlegrass (*Setaria magrostachya*)	1.0	
Green Spangletop (*Leptochloa dubia*)		2.0
Side oats Grama (*Bouteloua curtipendula)*		5.0

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

(Insert Seed Mixture Here)

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.