EC

Form 3160-3
(August 1999)

0017

OCD-ARTESIA

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM108964

6. If Indian, Allottee or Tribe Name:

1a. Type of Work: ☒ DRILL ☐ REENTER

CONFIDENTIAL

7. If Unit or CA Agreement, Name and No.:

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.: LIMESTONE DRAW FEDERAL 1

2. Name of Operator: CHESAPEAKE OPERATING, INC.
Contact: SHARON E. DRIES
E-Mail: sdries@chkenergy.com

9. API Well No.: 30-015-33211

3a. Address: OKLAHOMA CITY, OK 73154-0496

3b. Phone No. (include area code)
Ph: 405.879.7985
Fx: 405.879.9583

10. Field and Pool, or Exploratory
MORROW
Undes Bubbling Spring; Morrow, West

4. Location of Well (*Report location clearly and in accordance with any State requirements.**)

At surface: NWNW 775FNL 1215FWL
At proposed prod. zone: NENE 660FNL 660FEL

SUBJECT TO LIKE APPROVAL BY STATE

11. Sec., T., R., M., or Blk. and Survey or Area: Sec 36 T20S R25E Mer NMP

14. Distance in miles and direction from nearest town or post office*

12. County or Parish: EDDY
13. State: NM

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)

16. No. of Acres in Lease: 640.00

RECEIVED
JAN 28 2004

17. Spacing Unit dedicated to this well: 320.00

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.

19. Proposed Depth: 10500 MD, 10200 TVD

OCD-ARTESIA

20. BLM/BIA Bond No. on file

21. Elevations (Show whether DF, KB, RT, GL, etc.): 3526 GL

22. Approximate date work will start

23. Estimated duration

24. Attachments

CARLSBAD CONTROLLED WATER BASIN

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	Name (Printed/Typed)	Date
(Electronic Submission)	SHARON E. DRIES	09/25/2003

Title: AUTHORIZED REPRESENTATIVE

Approved by (Signature)	Name (Printed/Typed)	Date
/s/ Joe G. Lara	/s/ Joe G. Lara	28 JAN 2004
Title: **FIELD MANAGER**	Office: **CARLSBAD FIELD OFFICE**	

Application approval does not warrant or certify 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 1 YEAR

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.

Additional Operator Remarks (see next page)

Electronic Submission #23924 verified by the BLM Well Information System
For CHESAPEAKE OPERATING, INC., sent to the Carlsbad
Committed to AFMSS for processing by LINDA ASKWIG on 09/29/2003 (03LA0734AE)

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Additional Operator Remarks:

Chesapeake Operating, Inc. proposes to drill a well to 10500 to test the Wolfcamp, Cisco, Canyon, Strawn, and Morrow formations. If productive, casing will be run and the well will be completed. If dry, the well will be plugged and abandoned as per BLM and New Mexico Oil Conservation Division requirements.

Attached please find the Surface Use Plan and Drilling Plan and attachments as required by Onshore Order No. 1. A generic rig layout is attached as Exhibit D. A final rig layout will be submitted prior to spud once rig is assigned.

Please be advised that Chesapeake Operating, Inc. is considered to be the Operator of the above mentioned well. Chesapeake Operating, Inc. agrees to be responsible under the terms and conditions of the lease for the operations conducted upon the lease lands.

Bond coverage for this well is provided by Chesapeake Operating, Inc. under their Nationwide Bond No. NM2634.

Form 3160-5
(August 1999)

EC

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

FORM APPROVED
OMB NO. 1004-0135
Expires: November 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
NMNM108964

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.
LIMESTONE DRAW FEDERAL 1

2. Name of Operator
CHESAPEAKE OPERATING, INC.

Contact: SHARON E. DRIES
E-Mail: sdries@chkenergy.com

9. API Well No.

3a. Address
OKLAHOMA CITY, OK 73154-0496

3b. Phone No. (include area code)
Ph: 405.879.7985
Fx: 405.879.9583

10. Field and Pool, or Exploratory
MORROW

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 36 T20S R25E NWNW 775FNL 1215FWL

11. County or Parish, and State
EDDY COUNTY, NM

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

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

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

Attached is the release from El Paso Pipeline to locate our well near their pipeline ROW.

ACCEPTED FOR RECORD
/s/ Joe G. Lara
JAN 26 2004
CARLSBAD, NEW MEXICO

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #24901 verified by the BLM Well Information System
For CHESAPEAKE OPERATING, INC., sent to the Carlsbad
Committed to AFMSS for processing by ARMANDO LOPEZ on 11/07/2003 (04AL0103SE)

Name *(Printed/Typed)* SHARON E. DRIES — Title AUTHORIZED REPRESENTATIVE

Signature (Electronic Submission) — Date 11/07/2003

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____ Title **FIELD MANAGER** Date

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

Office **CARLSBAD FIELD OFFICE**

Title 18 U.S.C. Section 1001 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.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Chesapeake
Natural Gas.
Natural Advantages.

Mark W. Smith
Associate Landman

RECEIVED
OCT 30 2003
MAILROOM

October 24, 2003

Mr. Courtney Ragsdale
El Paso Field Services
Post Office Box 1508
Carlsbad, NM 88220

Re: Chesapeake's Limestone Draw Fed 1 Well
Section 36-20S-25E
Eddy County, New Mexico

Dear Courtney,

The surface location for Chesapeake's Limestone Draw Fed 1 Well is near your pipeline right-of-way, which is approximately 90 feet north of our stake. In order to satisfy BLM requirements, we are asking for El Paso's signed permission to build our location on or near your pipeline right-of-way. You indicated in our telephone conversation today that someone from El Paso needs to be on site during the building of the location. Our field representative, Mark Mabe, will contact you so that you may witness the actual building of the location. If this meets your approval, please execute and return one copy of this letter. Please do not hesitate to call if you have any questions.

Sincerely,

Mark W. Smith

AGREED AND ACCEPTED THIS 27th DAY OF OCTOBER, 2003.

EL PASO PIPELINE

By: K. Courtney Ragsdale

Name: K. Courtney Ragsdale

Title: Lead Operations Specialist

Chesapeake Energy Corporation
6100 N. Western Ave. • Oklahoma City, OK 73118 • P.O. Box 18496 • Oklahoma City, OK 73154-0496
405.810.2773 • Fax 405.879.9535 • mwsmith@chkenergy.com

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

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

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
		UNDESIGNATED MORROW

Property Code	Property Name	Well Number
	LIMESTONE DRAW FEDERAL	1

OGRID No.	Operator Name	Elevation
	CHESAPEAKE OPERATING, INC.	3526'

Surface Location

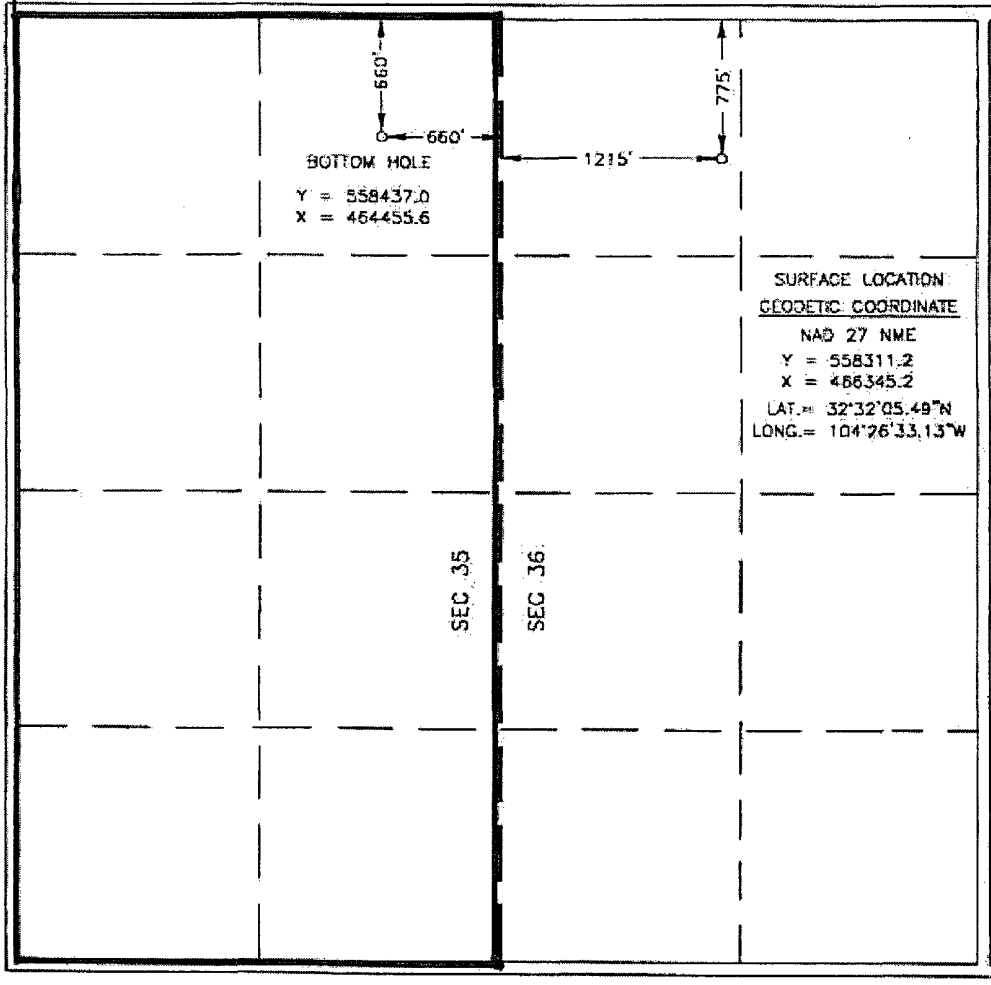
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	36	20-S	25-E		775'	NORTH	1215'	WEST	EDDY

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
A	35	20-S	25-E		660'	NORTH	660'	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320 Standup			

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 the the information contained herein is true and complete to the best of my knowledge and belief.

William F. Chatham
Signature

William F. Chatham
Printed Name

Landman
Title

June 11, 2003
Date

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.

June 05, 2003
Date Surveyed AWB

Signature & Seal of Professional Surveyor

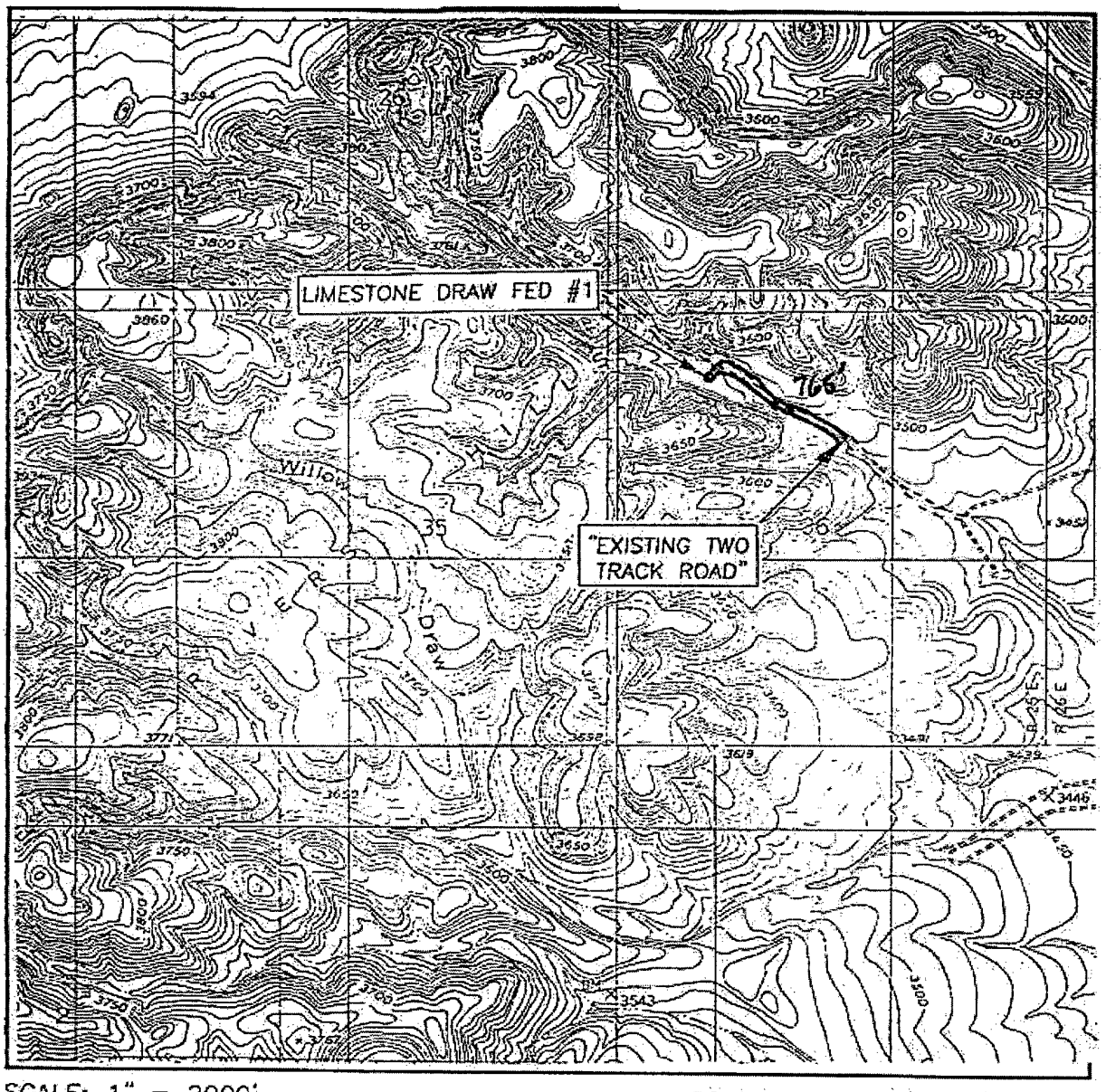
Gary B. Eidson 6/10/03

03.11.0558

Certificate No. RONALD J. EIDSON 3239
GARY EIDSON 12641

Exhibit A-1

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'
SEVEN RIVERS, N.M.

SEC. 36 TWP. 20-S RGE. 25-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 775' FNL & 1215' FWL

ELEVATION 3526'

OPERATOR CHESAPEAKE OPERATING, INC.

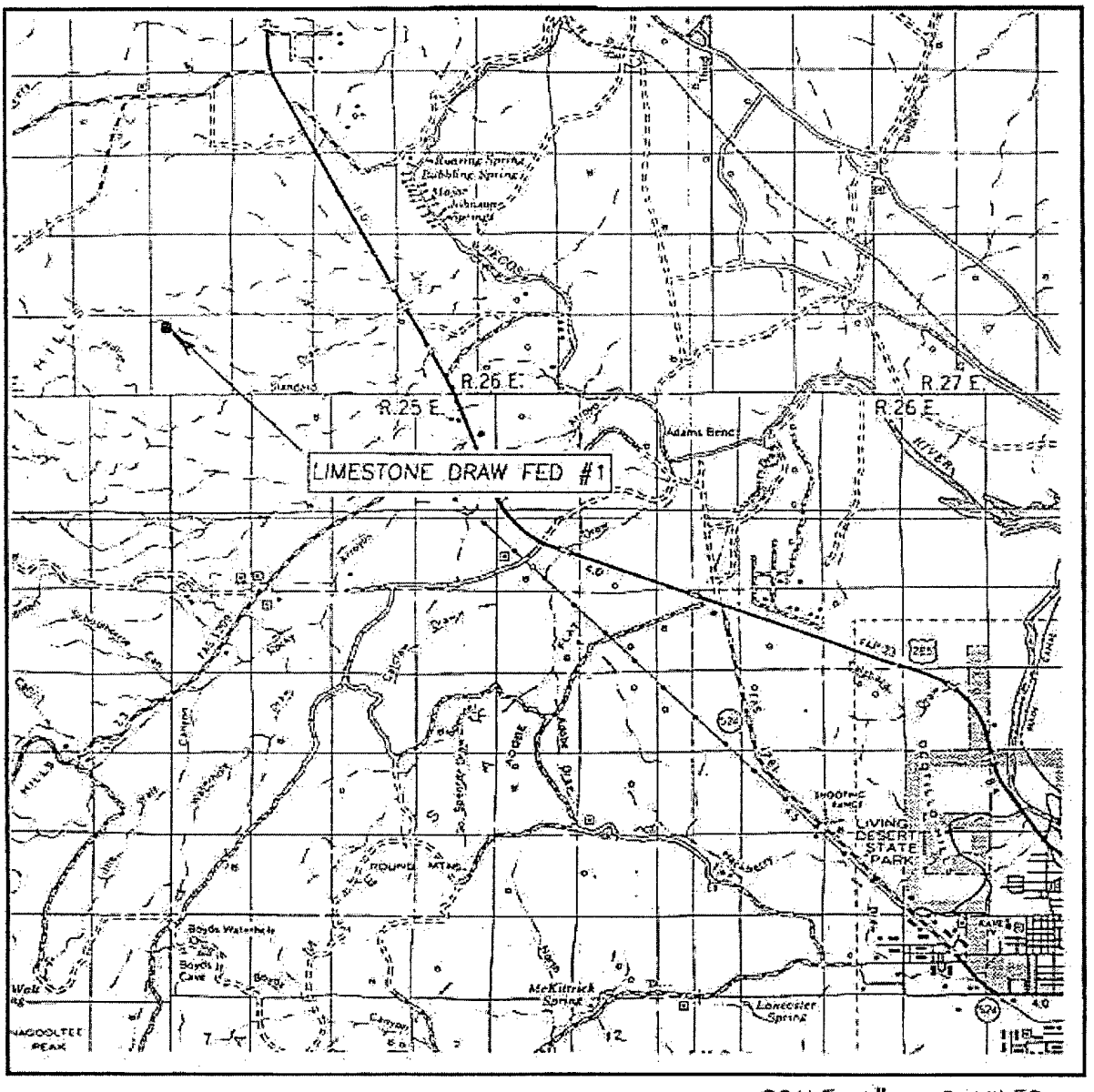
LEASE LIMESTONE DRAW FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
SEVEN RIVERS, N.M.

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393-3117

Exhibit A-2

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 36 TWP. 20-S RGE. 25-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 775' FNL & 1215' FWL

ELEVATION 3526'

OPERATOR CHESAPEAKE OPERATING, INC.

LEASE LIMESTONE DRAW FEDERAL

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393-3117

Exhibit A-3

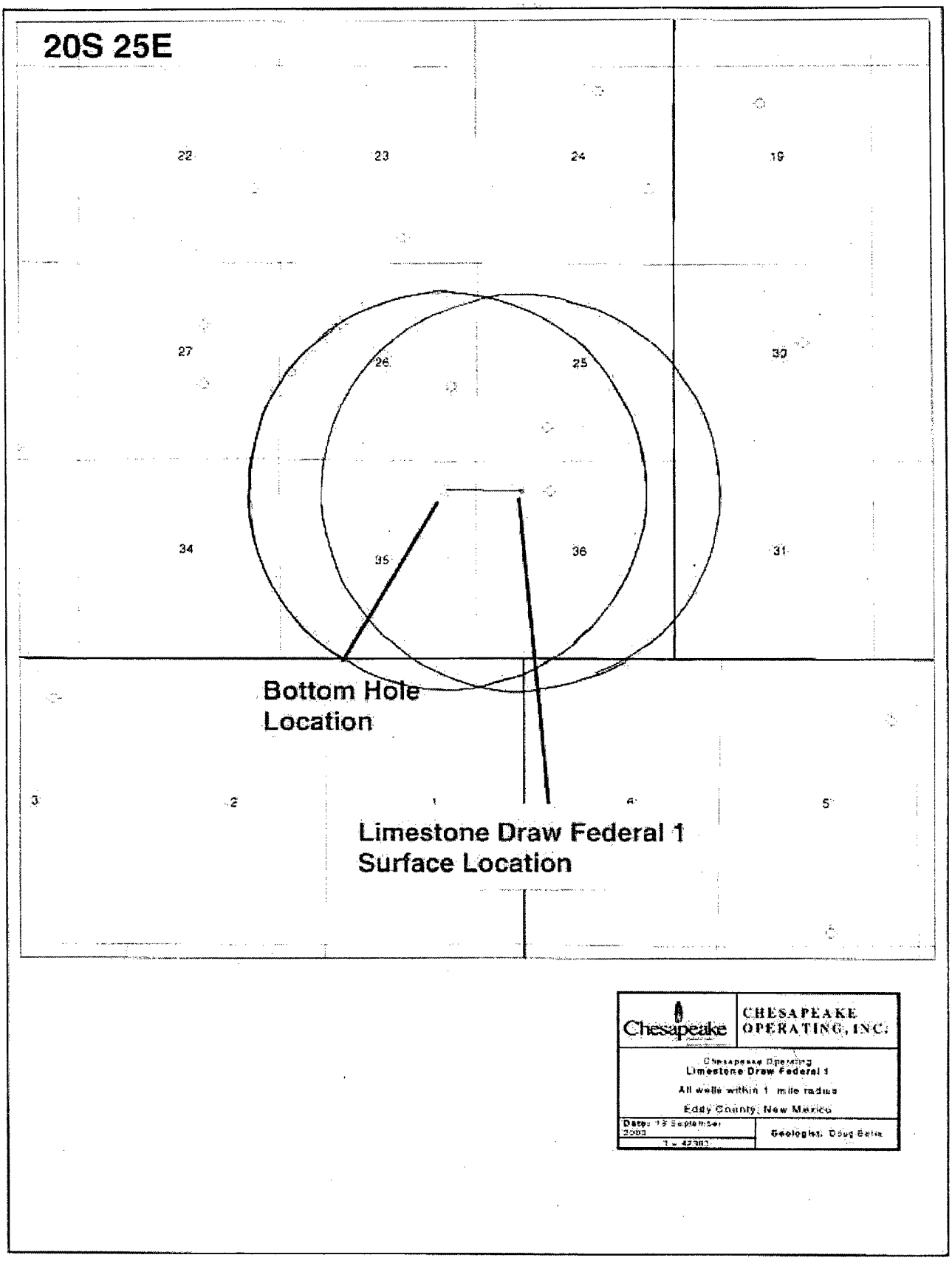

20S 25E
22
23
24
19
27
26
25
30
34
35
36
31
3
2
1
6
5
Bottom Hole
Location
Limestone Draw Federal 1
Surface Location
Chesapeake
CHESAPEAKE
OPERATING, INC.
Chesapeake Operating
Limestone Draw Federal 1
All wells within 1 mile radius
Eddy County, New Mexico
Date: 12 September
2003
1 = 4736'
Geologist: Doug Beik

Exhibit B

ONSHORE OIL & GAS ORDER NO. 1
Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

1. EXISTING ROADS

   a. Existing county road will be used to enter proposed access road. The driving directions to the location are from the intersection of Hwy 285 and the Relief Route north of Carlsbad, NM, go north on Hwy 285 for 8.5 miles. Turn left, go through cattle guard .3 mile to "Y", stay straight. Go .6 miles to cattle guard, when through cattle guard turn left and go 1.3 miles to next "Y". Stay right 1 mile to location.
   b. Location, access and vicinity plats attached hereto. See Exhibits A-1 - A-3.

2. PLANNED ACCESS ROADS

   a. An existing two-track road will be improved. The improvements will be on approximately 765' of the existing two tract. See Exhibit A-2. The road will be built in accordance with guidelines set forth in the BLM Onshore Orders.
   b. No turnouts are expected.
   c. A locking gate will be installed at the site entrance.
   d. Any fences cut will be repaired. Cattle guards will be installed, if needed.
   e. Surface disturbance and vehicular travel will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.

3. LOCATION OF EXISTING WELLS WITHIN A 1-MILE RADIUS OF THE PROPOSED LOCATION – see Exhibit B.

4. LOCATION OF PRODUCTION FACILITIES

   Production facilities will be located on location. See Exhibit C.

5. LOCATION AND TYPE OF WATER SUPPLY

   Water will be obtained from a private water source. Chesapeake Operating, Inc. will ensure all proper notifications and filings are made with the state.

6. CONSTRUCTION MATERIALS

All other material (i.e. shale) will be acquired from private or commercial sources.

7. METHODS FOR HANDLING WASTE DISPOSAL

A closed system will be utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill. Sanitary wastes will be contained in a chemical porta-toliet and then hauled to an approved sanitary landfill.

8. ANCILLARY FACILITIES

None.

9. WELLSITE LAYOUT

The proposed site layout plat is attached showing rig orientation and equipment location. See Exhibit D.

10. PLANS FOR RECLAMATION OF THE SURFACE

The location will be restored to as near as original condition as possible. Reclamation of the surface shall be done in strict compliance with the existing New Mexico Oil Conservation Division regulations.

Backfilling leveling, and contouring are planned as soon as the drilling rig and steel tanks are removed. Wastes and spoils materials will be buried immediately after drilling is completed. If production is obtained, the unused area will be restored as soon as possible. The rehabilitation will begin after the drilling rig is removed.

11. SURFACE AND MINERAL OWNERSHIP

United States of America
Department of Interior
Bureau of Land Management

GRAZING PERMITEE
Henry Terpening
3612 Castleberry
Artesia, NM 88201

12. ADDITIONAL INFORMATION (This is presumed info, may need to revise)

A Class III cultural resource inventory report was prepared by Danny Boone of Boone Archaeological Services, LLC, for the proposed location and new access road. Clearance has been recommended. See Exhibit E.

13. OPERATOR'S REPRESENTATIVES

Drilling and Completion Operations
Colley Andrews
District Manager
P.O. Box 18496
Oklahoma City, OK 73154
405-879-9230 (OFFICE)
405-850-4336 (MOBILE)
405-879-7930 (FAX)
candrews@chkenergy.com

Drilling Engineer
Rob Jones
P.O. Box 18496
Oklahoma City, OK 73154
405-848-8000 Ext. 2694 (OFFICE)
405-879-9571 (FAX)
405-623-5880 (MOBILE)
rjones@chkenergy.com

Production Operations
Mark Mabe
5014 Carlsbad Hwy – EXT. 12
Hobbs, NM 88240
505-391-1462 (OFFICE)
505-391-6679 (FAX)
505-390-0221 (MOBILE)
mmabe@chkenergy.com

Asset Manager
Andrew McCalmont
P.O. Box 18496
Oklahoma City, OK 73154-0496
405-848-8000 Ext. 852 (OFFICE)
405-879-7930 (FAX)
amccalmont@chkenergy

Regulatory Compliance
Sharon E. Dries
Regulatory Compliance Analyst
Mailing Address: P.O. Box 18496
Oklahoma City, OK 73154
Street Address: 6100 N. Western
Oklahoma City, OK 73118
405-879-7985 (OFFICE)
405-879-9583 (FAX)
sdries@chkenergy.com

14. CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this surface use plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed will be performed by operator (including contractors and subcontractors) submitting the APD, in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

By: J. Mark Lister

Date: 9/25/03

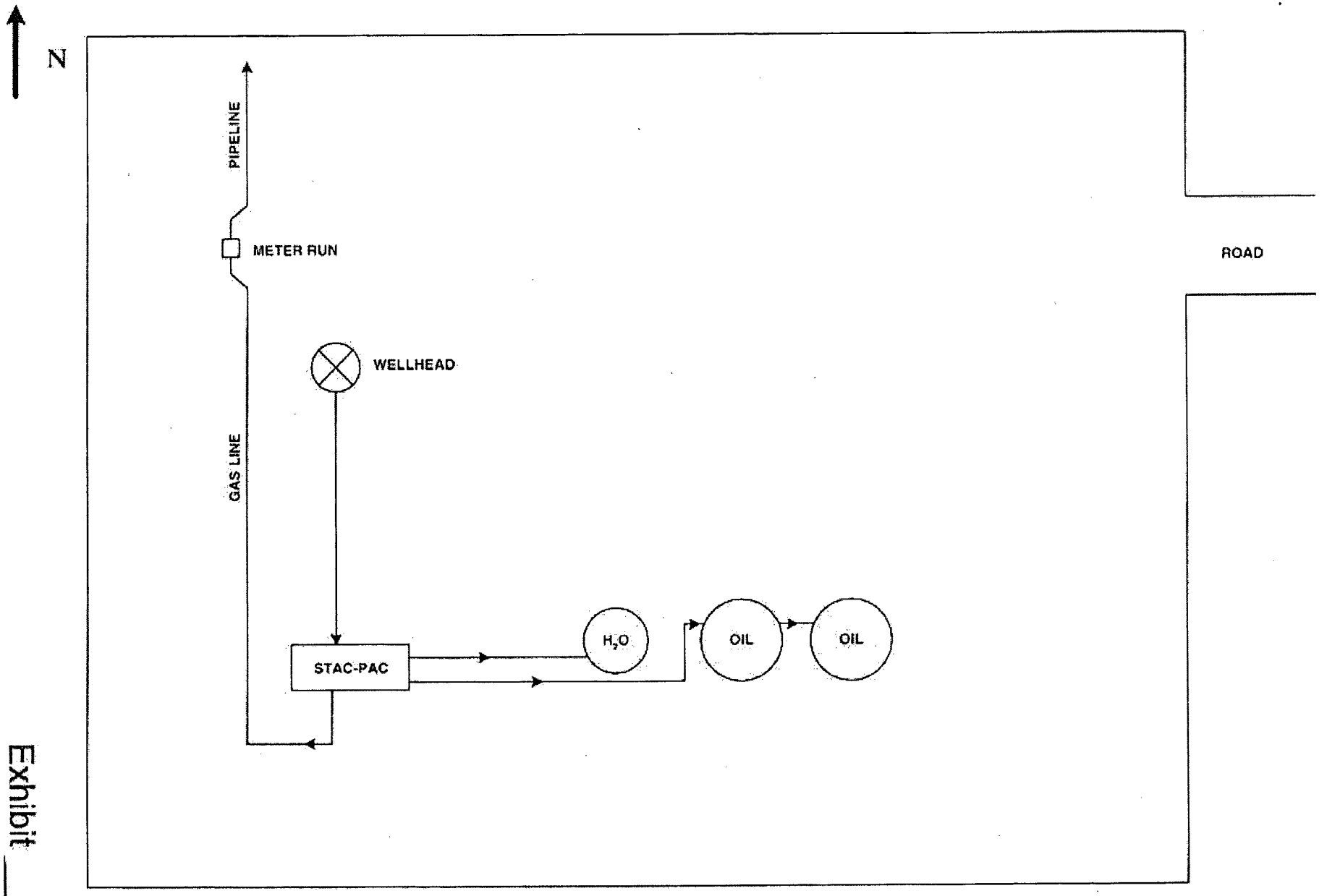


Exhibit C

CHESAPEAKE OPERATING, INC.
OKLAHOMA CITY, OK

Chesapeake

LIMESTONE DRAW FEDERAL NO. 1
SECTION 35-20S-25E
EDDY COUNTY, NEW MEXICO

DATE: 9/17/08
DRAWN BY: GAK
Not To Scale

ONSHORE OIL & GAS ORDER NO. 1
Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (CFR 43, Part 3160) and the approved Application for Permit to Drill. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling and completion operations.

Approval of this application 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.

1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

Formation	Depth	Subsea
San Andres	1170	2490
Glorietta	2790	770
Bonesprings Lime	3460	100
Second Bone Springs	4530	-870
Third Bone Springs	6865	-3250
Wolfcamp	7187	-3560
Cisco	7597	-3950
Cisco Shale Gas	7862	-4200
Canyon	8048	-4375
M. Canyon	8470	-4810
Strawn	9145	-5390
Strawn Middle Pay	9277	-5510
Strawn Lower	9431	-5650
Atoka	9560	-5765
Atoka Datum	9604	-5805
Morrow Lime	9855	-6030
Morrow Clastic	10040	-6195
Morrow B	10115	-6260
Morrow C	10160	-6300
Morrow D	10205	-6340
Lower Morrow	10250	-6380
Lower Morrow Sand	10296	-6420
Barnett	10330	-6450
Total Depth	**10500**	-6640

2. ESTIMATED DEPTH OF WATER, OIL GAS & OTHER MINERAL BEARING FORMATIONS

The estimated depths at which the top and bottom of the anticipated water, oil, gas or other mineral bearing formations are expected to be encountered are as follows:

Substance	Formation	Depth
Oil/Gas	Wolfcamp	7187
Gas	Cisco Shale Gas	7862
Oil/Gas	Canyon	8048
Gas	Strawn Middle Pay	9277
Gas	Morrow B	10115
Gas	Morrow C	10160
Gas	Morrow D	10205
Gas	Lower Morrow Sand	10296

All shows of fresh water and minerals will be reported and protected.

3. BOP EQUIPMENT: **5,000# System**

Chesapeake Operating, Inc.'s minimum specifications for pressure control equipment are as follows:

I. BOP, Annular, Choke Manifold, Pressure Test - See Exhibit F-1 and F-2.

A. Equipment
1. The equipment to be tested includes all of the following that is installed on the well.
(a) Ram-type and annular preventers,
(b) Choke manifolds and valves,
(c) Kill lines and valves, and
(d) Upper and lower kelly cock valves, inside BOP's and safety valves.

B. Test Frequency
1. All tests should be performed with clear **water**,
(a) when installed,
(b) before drilling out each casing string,
(c) at any time that there is a repair requiring a pressure seal to be broken in the assembly, and
(d) at least once every **30 days** while drilling.

C. Test Pressure
1. In some drilling operations, the pressures to be used for low and high-pressure testing of preventers and casing may be different from those given below due to governmental regulations, or approved local practices.

2. If an individual component does not test at the low pressure, **do not,** test to the high pressure and then drop back down to the low pressure.
3. All valves located downstream of a valve being tested must be placed in the open position.
4. All equipment will be tested with an initial "low pressure" test at 250 psi.
5. The subsequent "high pressure" test will be conducted at the rated working pressure of the equipment for all equipment except the annular preventer.
6. The "high pressure" test for the annular preventer will be conducted at 70% of the rated working pressure.
7. A record of all pressures will be made on a pressure-recording chart.

D. Test Duration
1. In each case, the individual components should be monitored for leaks for **5 minutes,** with no observable pressure decline, once the test pressure as been applied.

II. Accumulator Performance Test

A. Scope
1. The purpose of this test is to check the capabilities of the BOP control systems, and to detect deficiencies in the hydraulic oil volume and recharge time.

B. Test Frequency
1. The accumulator is to be tested each time the BOP's are tested, or any time a major repair is performed.

C. Minimum Requirements
1. The accumulator should be of sufficient volume to supply 1.5 times the volume to close and hold all BOP equipment in sequence, **without recharging** and the **pump turned off**, and have remaining pressures of **200 PSI above the precharge pressure**.

2. Minimum precharge pressures for the various accumulator systems per **manufacturers recommended specifications** are as follows:

System Operating Pressures	Precharge Pressure
1,500 PSI	750 PSI
2,000 PSI	1,000 PSI
3,000 PSI	1,000 PSI

3. Closing times for the Hydril should be less than **20 seconds**, and for the ram-type preventers less than **10 seconds**.

4. System Recharge time should not exceed **10 minutes**.

D. Test Procedure

1. Shut accumulator pumps off and record accumulator pressure.
2. In sequence, close the annular and one set of properly sized pipe rams, and open the HCR valve.
3. Record time to close or open each element and the remaining accumulator pressure after each operation.
4. Record the remaining accumulator pressure at the end of the test sequence. Per the previous requirement, this pressure **should not be less** than the following pressures:

System Pressure	Remaining Pressure At Conclusion of Test
1,500 PSI	950 PSI
2,000 PSI	1,200 PSI
3,000 PSI	1,200 PSI

5. Turn the accumulator pumps on and record the recharge time. This time should not exceed **10 minutes.**
6. Open annular and ram-type preventers. Close HCR valve.
7. Place all 4-way control valves in **full open** or **full closed** position. **Do not leave in neutral position**.

4. CASING AND CEMENTING PROGRAM

a. The proposed casing program will be as follows:

Purpose	Interval	Hole Size	Casing Size	Weight	Grade	Thread	Condition
Surface	0' –400'	17-1/2"	13-3/8"	48#	J-55	STC	New
Intermediate	0' – 2,500'	12-1/4"	9-5/8"	36#	J-55	LTC	New
Production	0' – 10,500'	8-3/4"	5-1/2"	17#	L-80	LTC	New

b. Casing design subject to revision based on geologic conditions encountered.
c. The cementing program will be as follows:

Interval	Type	Amount	Yield	Washout	Excess
0'-400'	Class C	500	1.34	50%	100%
0' – 2,500'	Class C 50/50 poz	600	2.3	50%	100%
7,000' – 10,500'	Class H	400	1.07	10%	20%

5. MUD PROGRAM

a. The proposed circulating mediums to be used in drilling are as follows:

Interval	Mud Type	Mud Weight	Viscosity	Fluid Loss
0' –400'	Fresh Water	8.4 – 8.9	34-36	NC
400' – 2,500'	Fresh Water	9.9 – 10.0	32-34	NC
2,900' – 10,400'	Fresh Water Polymer	8.4 – 10.5	36-40	10-12

A steel pit will be utilized during the drilling of this well. All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conversation Division rules and regulations.

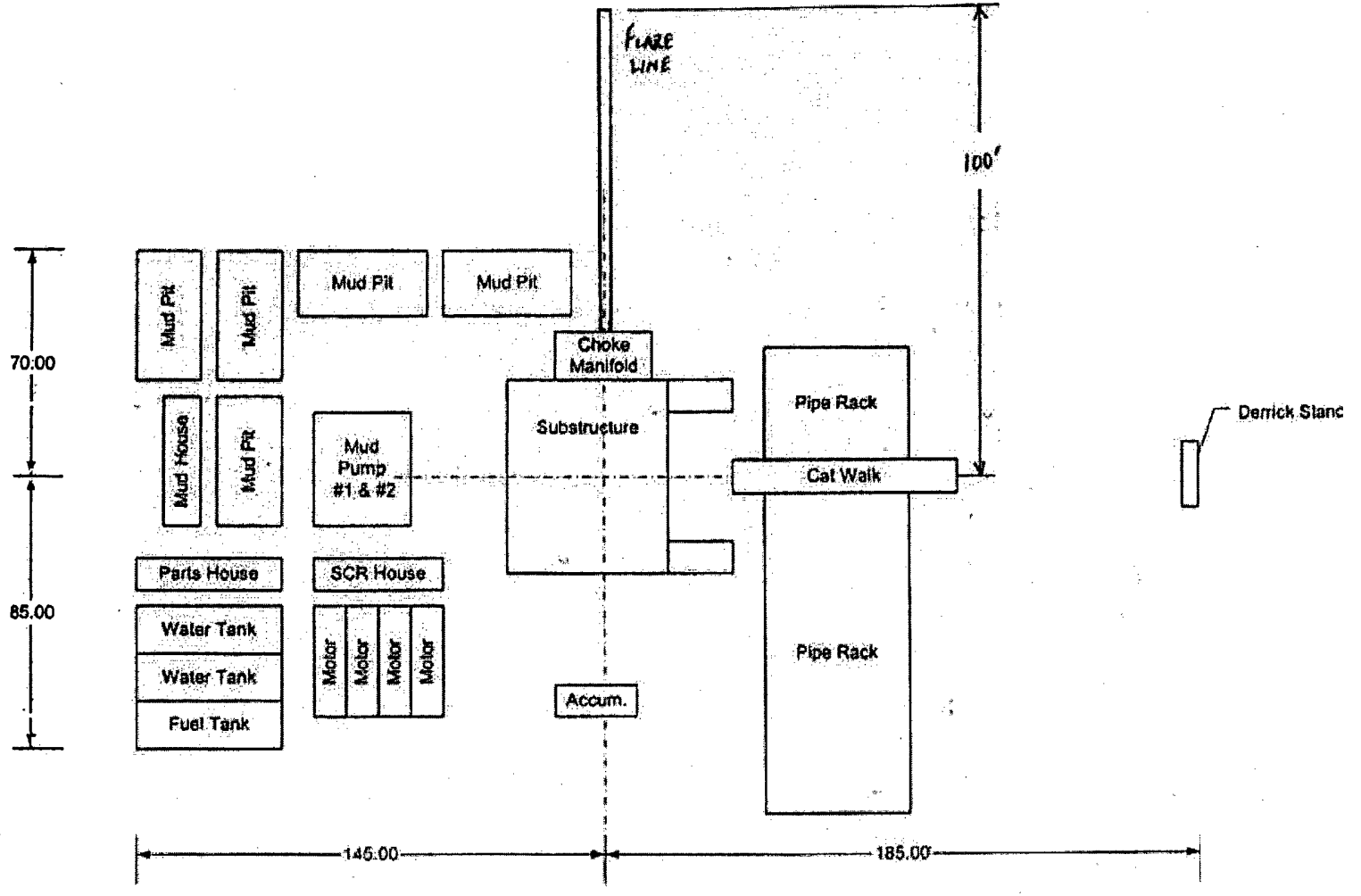
A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

6. TESTING, LOGGING AND CORING
The anticipated type and amount of testing, logging and coring are as follows:

a. Drill stem tests are not planned.
b. The logging program will consist of GR, Density, Neutron, Pe & High Resolution Induction from TD to intermediate casing.
c. Cores samples are not planned.

7. ABNORMAL PRESSURES AND HYDROGEN SULFIDE
a. The estimated bottom hole pressure is 4500 psi. No abnormal pressures or temperatures are anticipated.
b. A normal level of Hydrogen sulfide gas is expected.

8. DIRECTIONAL INFORMATION
This well is being directionally drilled. A directional well plan is included for your review. See Exhibit G.



Chesapeake Operating, Inc

General Rig Layout

SIZE	FSCM NO	DWG NO	REV
		Generic	

TITLE PAGE/ABSTRACT/ NEGATIVE SITE REPORT CFO/RFO

1/03

1. BLM Report No.	2. Reviewer's Initials/Date_____ ACCEPTED ( ) REJECTED ( )	3. NMCRIS No.: 84682

4. Type of Report: Negative( ) Positive (X)

5. Title of Report:
Class III archaeological survey of a pad and access road for the Limestone Draw Federal well No. 1.
Author(s): Ann Boone

6. Fieldwork Date(s)
from 30 July to 8 August 2003

7. Report Date 3 Sept. 2003

8. Consultant Name & Address:
Boone Archaeological Services
2030 North Canal
Carlsbad, NM 88220
Direct Charge: Danny Boone
Field Personnel Names: Danny Boone
Phone: (505) 885-1352

9. Cultural Resource Permit No.
190-2920-03-C
State: NM-03-197

10. Consultant Report No.
BAS 07-03-24

11. Customer Name: Chesapeake Operating, Inc.
Responsible Individual: Sharon Dries
Address: P.O. Box 18496
Oklahoma City, Oklahoma 73154-0496
Phone: (405) 848-8000

12. Customer Project No.:

13. Land Status	BLM	STATE	PRIVATE	OTHER	TOTAL
a. Area Surveyed (acres)	0	20.28 (-/+)	18.87 (+/-) Fed. Min.	0	39.15 (+/-)
b. Area of Effect (acres)	0	6.44 (+/-)	4.36 (-/+)	0	10.80 (-/+)

14. Linear: Length: 10,350' (+/-) Width: 130'
Block: 600' x 600'

15. Location: (Maps Attached if Negative Survey)

a. State: New Mexico

b. County: Eddy

c. BLM Office: Carlsbad

d. Nearest City or Town: Carlsbad, NM

e. Legal Location: T 20S, R 25E, Sec. [(Pad) 36 (State), NW NW, NE NW]; Access Road, [Sec. 36 (State), NE NW, NW NE, SW NE, SE NE]; [T 20S, R 26E, Sec. 31 (Priv. Surface, Fed. Min.), SW, NW, SE NW, NE NW, NW NE, NE NE]; [Sec. 30 (Priv. Surface, Fed. Min.), SE SE]:

f. Well Pad Footages: Surface Location, 775' FNL, 1215' FWL

g. USGS 7.5 Map Name(s) and Code Number(s): SEVEN RIVERS, NM. (1954) 32104-E4

Exhibit E

16. Project Data:

a. Records Search: Date(s) of BLM File Review: 28 July 2003 Name of Reviewer (s): Danny Boone

Date(s) of ARMS Data Review: 31 July 2003 Name of Reviewer (s): Ann Boone

Findings (see Field Office requirements to determine area to be reviewed during records search):

These records revealed that LA 44584 and LA 72403 (NM-050) are within 1.0 mile. The location for LA 44584 as shown on the BLM Topographic Site Map and ARMS Site Map have a discrepancy of several hundred feet.

b. Description of Undertaking:

The project is a 600' x 600' (8.26 ac.) pad survey area that has a surface location on State Lands in T 20S, R 25E, Section 36, with a bottom hole location in T 20S, R 25E, Section 35 which is Federal Lands adminstrated by the Bureau Of Land Management. The access road survey starts in the southeast portion of the proposed pad on State Lands trending east for aproximately 4,025' in Section 36, T 20S, R 25E, crossing approximately 5,975' in Section 31, T 20S, R 26E which is Private Surface with Federal Minerals and ends near a cattle guard approximately 350' in Section 30, T 20S, R 26E which is Private Surface with Federal Minerals . This proposed road will be the upgrading of an existing old lease road that crosses a dry hole pad in Section 36. No plat was available for the road, therefor location, footage and acres were estimated by using a hand held GPS Unit. In Section 36 a portion of the road was re-routed in order to avoid LA 140160, this re-route was flagged with Blue and Pink tape.

c. Environmental Setting (NRCS soil designation; vegetative community; etc.):

Topography: Located on an alluvial fan just north of Willow Draw

Vegetation: Approximately 15% overall groundcover, acacia, cat claw, juniper, agave, tarbush, barberry, creosote bush, prickly pear cactus, hackberry, littleleaf horsebursh, assorted grasses and oather flora.

NRCS: Limestone rock land-Ector association: Rock land and very shallow, stony and rocky, loamy soils over limestone; on hills and mountains.

d. Field Methods: (transect intervals; crew size; time in field; ect.):

Transects: For the pad a grid of parallel transects spaced 15 meters or less, for the road 2 transects spaced up to 10 meters apart on each side of staked centerline.

Crew Size: One

Time in Field: 20 hrs total, 14 surveying, 6 site recording

e. Artifacts Collected (?): None

17. Cultural Resource Findings:

a. Identification and description: Two new archaeological sites LA 140160 and LA 140161 were encountered and recorded. See attachments.

b. Evaluation of significance of Each Resource:

18. Management Summary (Recommendations):

Archaeological clearance of a pad and access road for the the Limestone Draw Federal well No. 1 for Chaesapeake Operating, Inc. as presently staked is recommended provided that the original access road in Section 30, T 20S, R 26E is strictly adhered to relative to LA 140161 and that the reroute flagged in blue and pink tape around LA 140160 in Section 36, T 20S, R 25E is followed. If cultural resources are encountered at any time all activity should cease and the BLM Archaeologist notified immediately.

19.

I certify that the information provided above is correct and accurate and meets all appreciable BLM standards.

Responsible Archaeologist Danny Boone 4 Aug 2003

Signature Date

Class III archaeological survey of a pad and access road for the Limestone Draw Federal well No. 1 for Chaesapeake Operating, Inc.
Boone Archaeological Services, LLC Report No.: 07-03-24
BLM Permit No.: 190-2920-03-C
State Of New Mexico Permit No.: NM-03-157
NMCRIS No.: 84682

Chesapeake Operating, INC
P. O. Box 18496
Oklahoma City, OK. 73154

Attention:
Ms Sharon Dries;

1. Introduction:

Ms. Sharon Dries of Chesapeake Operating, Inc. contacted Boone Archaeological Services, LLC on 9 June 2003 requesting an archaeological survey of a pad and access road for the Limestone Draw Federal well No. 1. On 30 July 2003 Danny Boone Field Supervisor / Principal Investigator for Boone Archaeological Services, LLC conducted an intensive class III pedestrian cultural survey of the affected area and required buffer zones. At this time the survey area for the pad had not been properly staked as per BLM requirements. During the cultural survey on 30 July 2003 of the access road portion of the proposed project two new archaeological sites were encountered. LA 140160, a BLM Category II pre-historic site and LA 140161, a BLM Category II historic site. Location plats for the pad potion of the project were provided by Chesapeake Operating, Inc. and a copy is attached to this report. Archaeological clearance for the project is recommended as long the recommendations stated in Section 7 of this report are followed.

2. Project Description:

Field survey began on 30 July 2003, at this time the survey area for the pad had not been properly staked as per BLM requirements. Surface location for the pad (Drill Hole) is on State Lands in T 20S, R 25E, Section 36, with a bottom hole location in T 20S, R 25E, Section 35 which is Federal Lands adminstrated by the Bureau Of Land Management. The corners of the pad were staked as a 500 feet by 500 feet on 8 August 2003 by Chesapeake representive (Dax) and the pad survey area was then examined with a 50 feet buffer by Danny Boone at this time. The access road survey starts in the southeast portion of the proposed pad on State Lands trending east for aproximately 4,025' in Section 36, T 20S, R 25E, then crossing approximately 5,975' in Section 31, T 20S, R 26E which is Private Surface with Federal Minerals and ends near a cattle guard approximately 350' into Section 30, T 20S, R 26E which is Private Surface with Federal Minerals. This proposed road, 130 feet wide survey, will be the upgrading of an existing (old) lease road that crosses a dry hole pad in Section 36. No plat was available for the road, therefore location, footage and acres are were estimated by using a hand held GPS Unit. In Section 36 a portion of the road was re-routed in order to avoid LA 140160, this re-route was flagged with Blue and Pink tape.

3. Legal Description:

Pad, T 20S, R 25E, Section 36, NW¼ NW¼, NE¼ NW¼; Access Road, [Sec. 36 (State), NE¼ NW¼, NW¼ NE¼, SW¼ NE¼, SE¼ NE¼]; T 20S, R 26E, [Sec. 31 (Priv. Surface, Fed. Min.), SW¼, NW¼, SE¼ NW¼, NE¼ NW¼, NW¼ NE¼, NE¼ NE¼]; [Sec. 30 (Priv. Surface, Fed. Min.), SE¼ SE¼];

Drill Hole Location: T 20S, R 25E, Section 36, 775 feet from the North Line, 1215 feet from the West Line
Bottom Hole Location: T 20S, R 25E, Section 35, 660 feet from the North Line, 660 feet from the East Line

Map Reference: USGS 7.5' Series: SEVEN RIVERS, NM, (1954) 32104-E4
Land Status: T 20S, R 25E, Section 36, State; T 20S, R 26E, Section 31, Private Surface with Federal Minerals; Section 30, Section 31, Private Surface with Federal Minerals:

4. Enviromental Setting:

Topography: Located on an alluvial fan just north of Willow Draw
Vegetation Approximately 15% overall groundcover, acacia, cat claw, juniper, agave, tarbush, barberry, creosote bush, prickly pear cactus, hackberry, littleleaf horsebursh, assorted grasses and oather flora.
NRCS: Limestone rock land-Ector association: Rock land and very shallow, stony and rocky, loamy soils over limestone; on hills and mountains.
Aspect: 360 degrees
Elevation: Varies from 3,526 ft. at drill hole to 3,551 ft. at BOL for the road.
Lithic Resources: Chert and quartzite occur in the local gravels
Water Sources: (permanent) Pecos River, approximately 3.5 miles northeast, (potential) Willow Draw 1 mile south

5. Examination Procedure:

For the 600 ft. by 600 ft. pad a grid of parallel transects spaced 15 meters of less, for the road 2 parallel zig-zag transects spaced up to 10 meters apart on each side of staked centerline.
Visibility: 40 % (+/-) due to vegetation
Weather: Clear, sunny, hot
Lighting Conditions: Good
Work Hours on the Ground: 20 hrs total, 14 surveying, 6 site recording
Crew Size: One

6. Findings:

A search of New Mexico Laboratory of Anthropology survey and site records was conducted by Ann Boone on 31 July 2003. Additional research was done by Danny Boone on 28 July 2003 in person at the Carlsbad Bureau Of Land Management. These records revealed that LA 44584 and LA 72403 (NM-050) are within 1.0 mile. The location for LA 44584 as shown on the BLM Topographic Site Map and ARMS Site Map have a discrepancy of several hundred feet.

Field survey resulted in the recording of two new a BLM Category II sites, LA 13140160 and LA 140161, both recommendede for the National Register Of Historic Places.
LA 140160 at UTM Coordinates, Zone 13, 552798E, 3599959N is a single burned rock midden approximately 15 meters in diameter, concave in the center and partially buried. It has been opened equally all around. The feature is located on an alluvial fan that has a slight but steady slope to the east-southeast. There is a steep rocky hill immediately to the north, an incised arroyo approximately 65 meters to the south and open canyon to the west and east. No artifacts are visible on the surface but charcoal and ash are visible in rodent burrows within the feature. Numerous rodent burrows are in the nearby vicinity and these show no staining, no artifacts, or FCR. A re-route of the existing road was flagged with blue and pink tape.
LA 140161 at UTM Coordinates, Zone 13, 555122E, 3600045N consists of the remains of stonewalls that served as buildings or corrals. LA 140161 has been impacted by an existing oil field lease road within the site. Also it appears that a considerable amount of the original structure(s) have been removed, probably recycled for other use. Artifacts are mainly shattered (and scattered) glass, some unknown pieces of metal and rusted / smashed metal cans that have been scattered by the wind. There are modern artifacts such as plastic bottles, pop top cans etc scattered around the area. Located predominately on the southwest side of a small ephemeral drainage. This drainage has had an earthen dam constructed approximately 30 meters to the northwest. The current project proposes to use the existing caliche capped road that passes through the site. No impact will occur as long the existing ROW is strictly adhered to.

7. Recommendations:

Archaeological clearance of a pad and access road for the the Limestone Draw Federal well No. 1 for Chaesapeake Operating, Inc. as presently staked is recommended provided that the original access road in

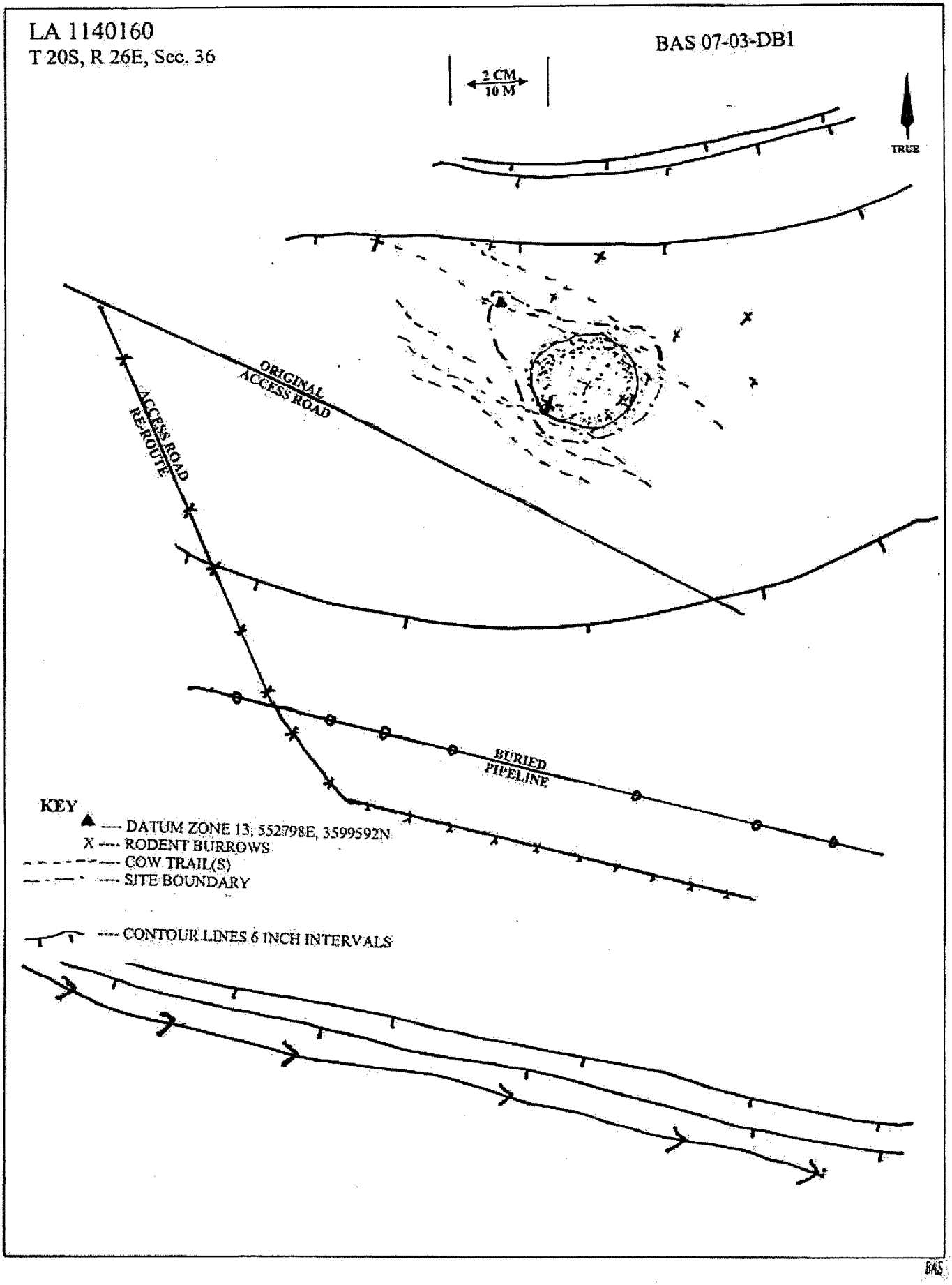
Section 30, T 20S, R 26E is strictly adhered to relative to LA 140161 and that the **reroute flagged in blue and pink tape** around LA 140160 in Section 36, T 20S, R 25E is followed. All activity should cease and the Carlsbad BLM Archaeologist notified immeditially if cultural resources are encountered at any time.

Table 1. Site Summary Table

LA #	Field #	Ownership	Quadrangle	Legal Location	Category	Description	Eligibility
LA140160	BAS 07-03-24DB1	State Of New Mexico	SEVEN RIVERS, NM, (1954) 32104-E4	Sec. 36, T 20S, R 25E UTM: Zone 13 552798E, 3599592N	II	Pre-Historic FCR Midden	Recommend as Eligible
LA140161	BAS 7-03-24DB2	Private	SEVEN RIVERS, NM, (1954) 32104-E4	Sec. 30 & 31, T 20S, R 25E, UTM: Zone 13 555122E, 3600054N	II	Historic, rock walls, glass and can scatter	Recommended as Eligible

LA 1140160
T 20S, R 26E, Sec. 36

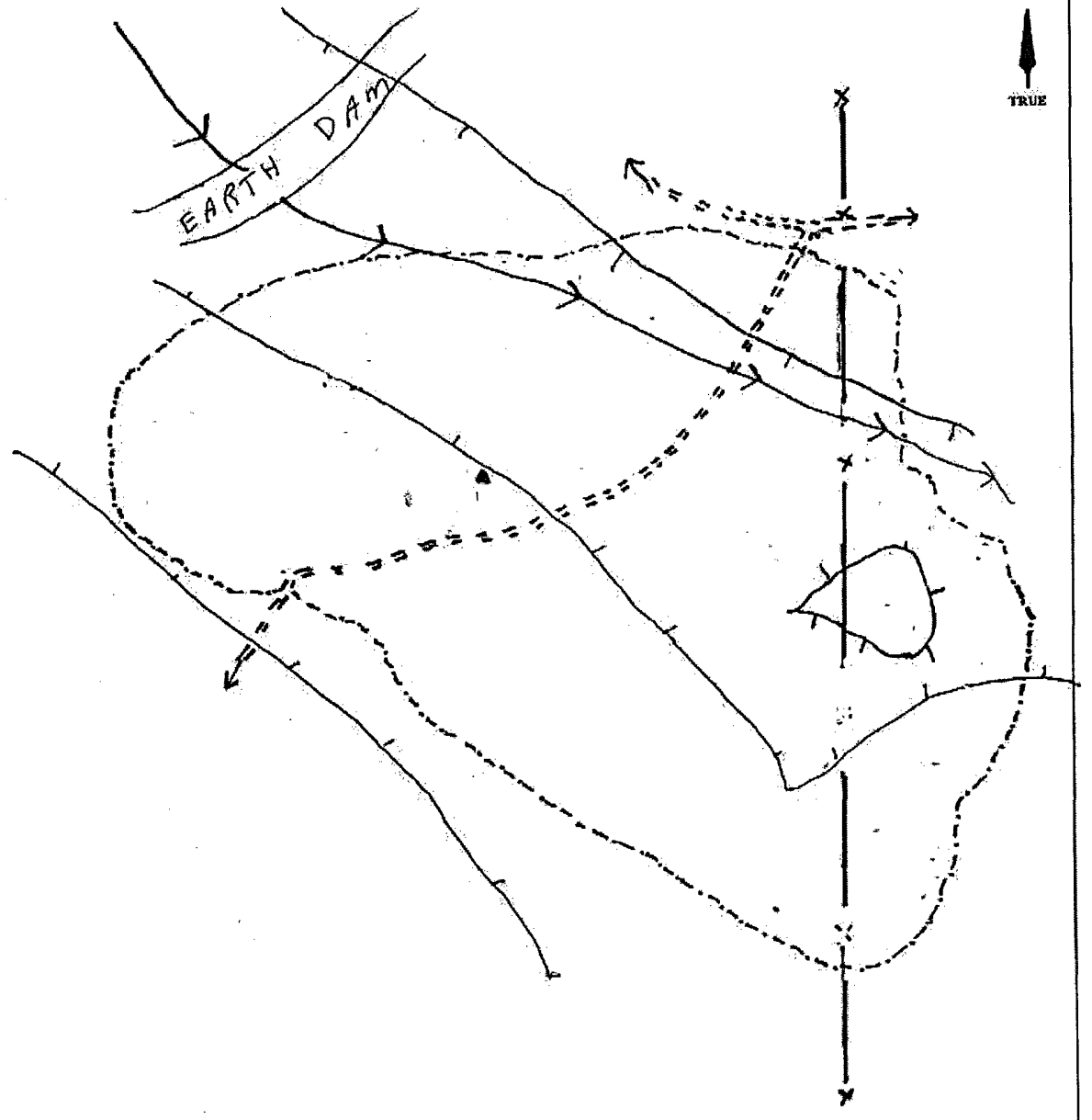
BAS 07-03-DB1



BAS

LA 140161
T 20S, R 26E, Sections 30 & 29

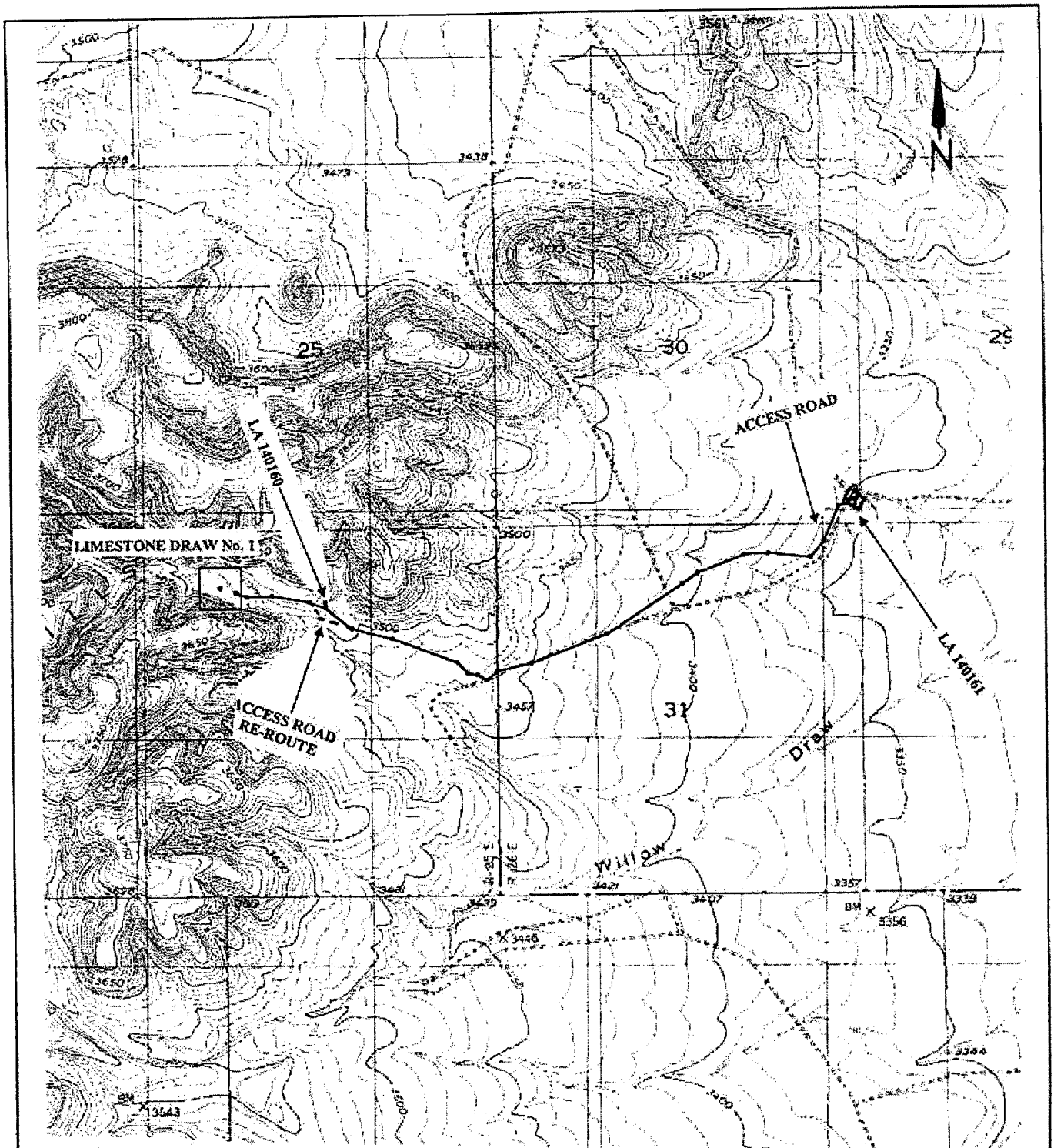
BAS 07-03-24DB2



2 CM
20 M

KEY

- ▲ ---- DATUM Zone 13, 555122E, 3600045N
- ⁘ ---- ROCK WALLS
- A ---- AQUA GLASS
- T ---- AMETHYST GLASS
- P ---- PURPLE GLASS
- CR ---- CERAMIC FRAGMENTS
- B ---- BROWN GLASS
- DP ---- DOCTOR PEPPER FRAGMENTS
- C ---- METAL CAN
- R ---- CARBON ROD
- S ---- SNUFF JAR FRAGMENTS
- ---- BARB WIRE FENCE
- II ---- TOBACCO TIN
- X ---- CONE SHAPED PILE OF CEMENT
- V ---- WASH PAN
- N ---- BOTTLE NECK
- M ---- MACHINE DUG PIT
- ---- CALICHE CAPPED ROAD
- ---- CONTOUR LINES 1 ft. INTERVALS
- ---- SITE BOUNDARY



Surface Location Map of Chesapeake Operating, INC.s pad for the Limestone Draw Federal well No. 1 and access road in Section 36, T 20S, R 25E and access road in Sections 31 & 30, T 20S, R 26E, NMPM, Eddy County, New Mexico.

Map Reference USGS 7.5' Series; SEVEN RIVERS, NM, (1954) 32104-E4

SCALE 1:24 000

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 0 1 KILOMETER

RAS

September 4, 2003

Boone Archaeological Services LLC
2030 North Canal
Carlsbad, New Mexico 88220
Phone 505-885-1352

TO: David Eck, Archaeologist, New Mexico State Land Office, Santa Fe, New Mexico

Michelle M. Ensey, Archaeologist, State Historic Preservation Office, Santa Fe, New Mexico

FROM: Danny Boone, Principal Investigator, Boone Archaeological Services, LLC

SUBJECT: Notification of intent to conduct an archaeological survey on New Mexico State Trust Lands of a pipeline Right of Way. This survey will be conducted under the auspices of New Mexico Annual State Trust Land Archaeological Survey Permit No. NM -03-157 and BLM Permit No. 190-2920-03 E issued to Boone Archaeological Services, LLC.

Boone Archaeological Services, LLC reference No. BAS 07-03-24

Chesapeake Energy Corporation

Map Reference; U.S.G.S. 7.5' Series: SEVEN RIVERS, NM, (1954) 32104-E4

PROJECT DESCRIPTION:

Chesapeake Energy Corporation of Oklahoma City, OK has requested that Boone Archaeological Services conduct an intensive (Class III) pedestrian, archaeological survey of a pad and access road for the Limestone Draw Federal well No. 1 on New Mexico State Trust Lands with Federal Minerals. The entire project will be archaeological evaluated in order to prevent damage to any cultural resources on New Mexico State Trust Lands. The survey is not for the purpose of research.

The New Mexico State Trust Land for the pad is located in T20S R25E Section 36; (PAD) NW ½ NW¼, , NE¼ NW¼ , (ACCESS ROAD) SW NE NW, SE¼ NE¼ NW¼, SW¼ NW¼ NE¼, NW¼ SW¼ NE¼, NE¼ SW¼ NE¼, NW¼ SE¼ NE¼, SE¼ SE¼ NE¼; NMPM Eddy County. New Mexico. Construction of the proposed pad will disturb 400 ft. x 400 ft. (16,600 sq. ft.) 3.67 acres on New Mexico State Land surface. A total of 8.26 acres 600 ft. x 600 ft. (360,000 sq. ft.) New Mexico State Land surface will be inspected for archaeological remains.
Construction of the proposed access road will disturb 4,025 ft. x 30 ft. (120,750 sq. ft.) 2.77 acres on New Mexico State Land surface. A total of 12.01 acres 4,025 ft. x 130 ft. (523,250 sq. ft.) New Mexico State Land surface will be inspected for archaeological remains.

The survey will be accomplished on foot; with zigzag and straight-line transects spaced between 8 and 15 meters apart, with additional inspection of any probable appearing areas in the immediate vicinity of the project. The survey will conform to a Class III (100%) inventory of the project area. Further information on survey methodology, mapping and recording procedures, collection procedure, analytical procedure, personnel, etc., (employed by Boone Archaeological Services, LLC) is on file with the SHPO.

Principal Investigator: Dary Boone

Enclosure: Project map with area on State Land marked in red.

BLOWOUT PREVENTOR SCHEMATIC

CHESAPEAKE OPERATING INC

WELL : Limestone Draw Federal 1
FIELD : Permian
RIG : NA
COUNTY : Eddy STATE: New Mexico
OPERATION: Drill out below 13-5/8" Casing

	SIZE	PRESSURE	DESCRIPTION
A	13-5/8"	5,000#	Annular
D	13-5/8"	10,000#	Mud Cross
Spool		13-5/8" 3M x 13-5/8" 5M	
A-Sec		13-5/8" SOW x 13-5/8" 3M	

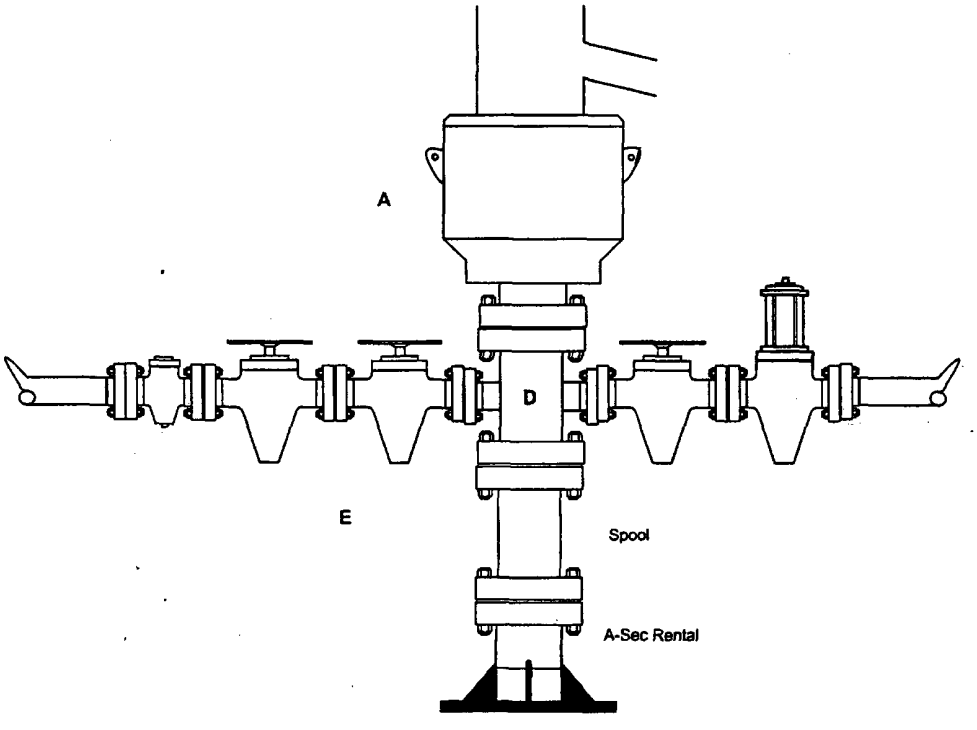


Exhibit F-1

BLOWOUT PREVENTOR SCHEMATIC

CHESAPEAKE OPERATING INC

WELL : Limestone Draw Federal 1
FIELD : Permian
RIG : NA
COUNTY : Eddy **STATE:** New Mexico
OPERATION: Drill out below 9-5/8" Casing

	SIZE	PRESSURE	DESCRIPTION
A	13-5/8"	500#	Rot Head
B	13-5/8"	5,000#	Annular
C	13-5/8"	5,000#	Pipe Rams
D	13-5/8"	5,000#	Blind Rams
E	13-5/8"	5,000#	Mud Cross
DSA		11" 5M x 13-5/8" 5M	
Spacer		11" 5M x 11" 5M	
A-Sec		9-5/8" SOW x 11" 5M	

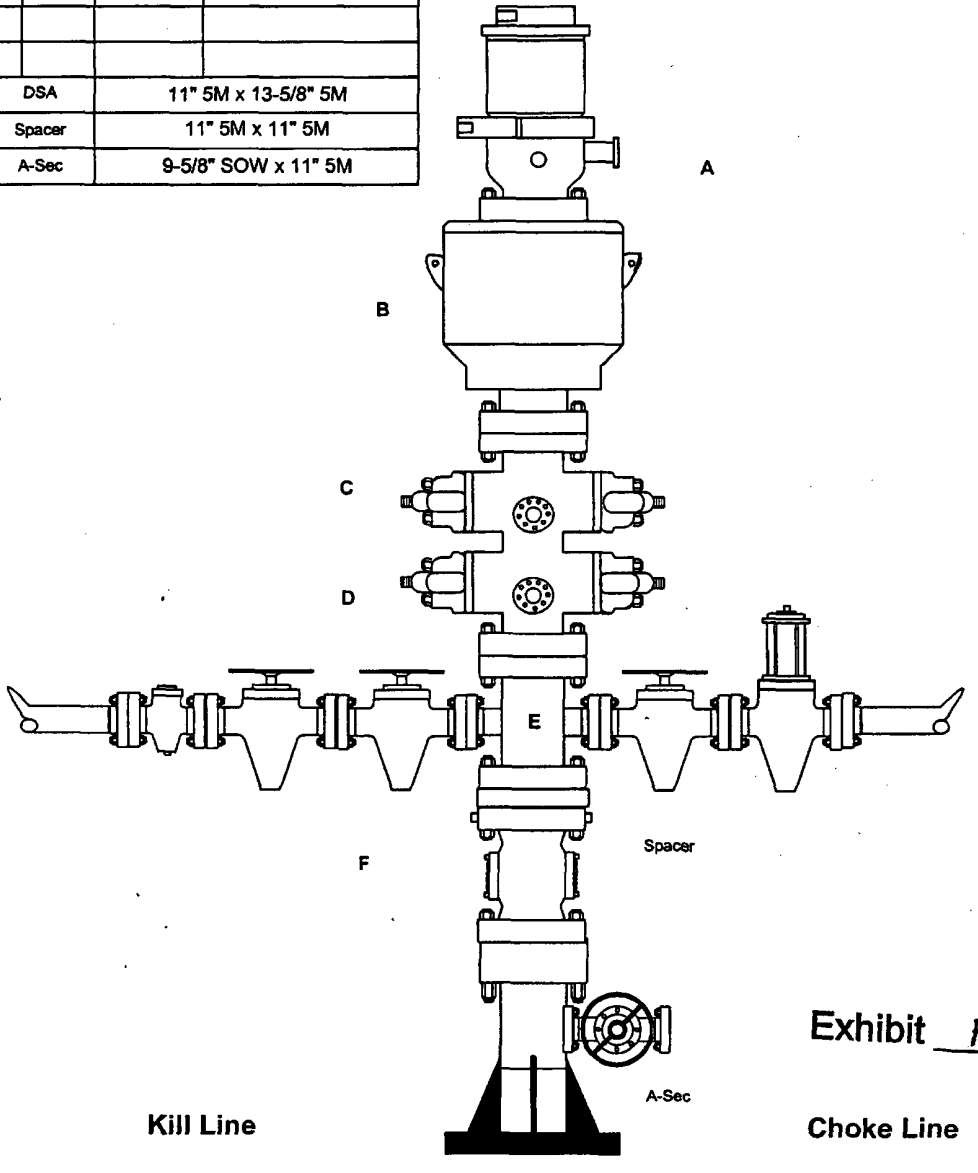


Exhibit F-2

Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	5,000#	Check Valve
2"	5,000#	Gate Valve
2"	5,000#	Gate Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
4"	5,000#	Gate Valve
4"	5,000#	HCR Valve

CHESAPEAKE OPERATING, INC.

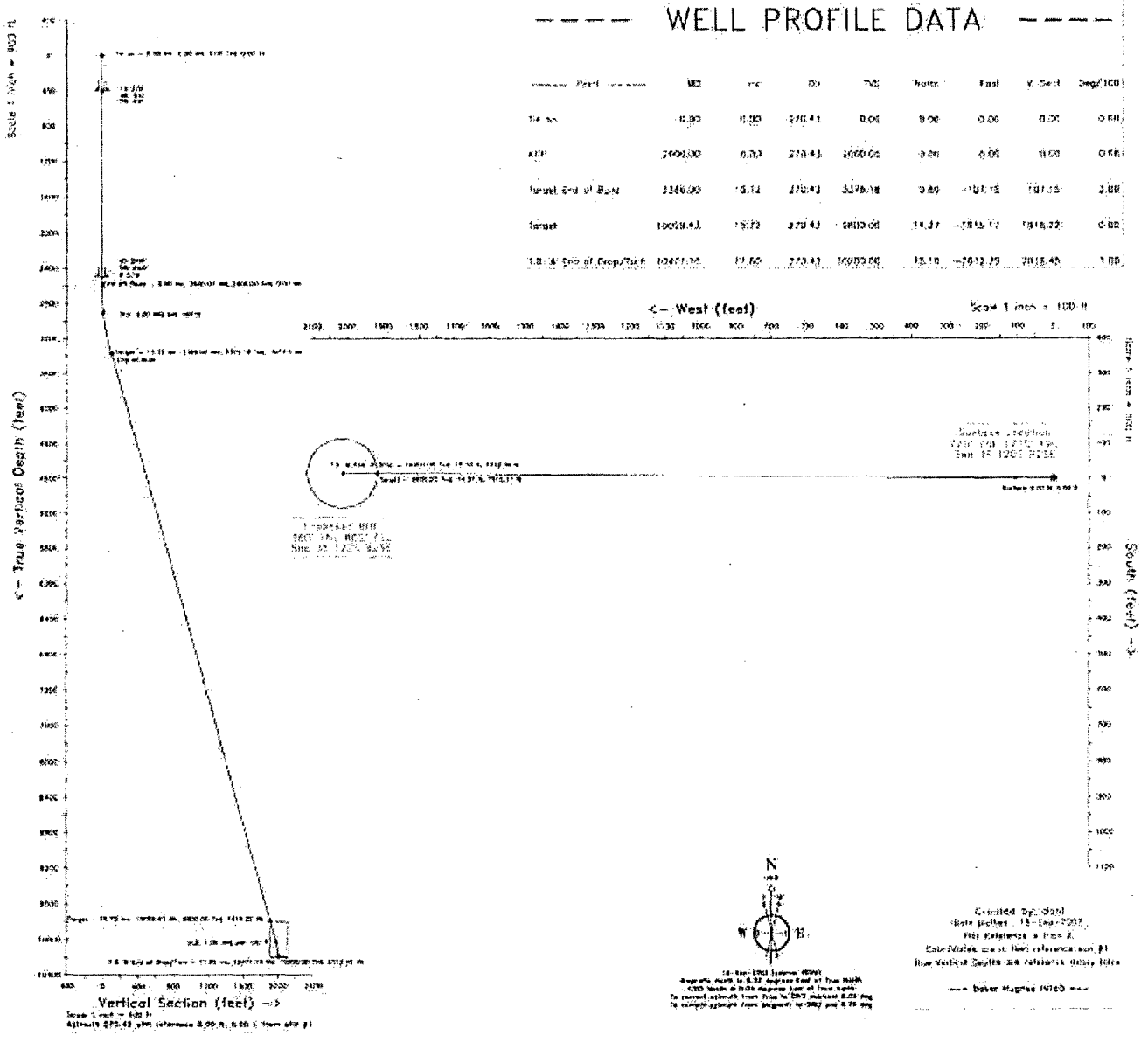
BAKER HUGHES INTEQ

Structure : Limestone Draw Federal 1 Slot : slot #1

Field : UNKNOWN Location : Eddy County New Mexico

WELL PROFILE DATA

Point	MD	Inc	Dir	TVD	Northings	Eastings	V. Sect	Deg/100ft
Tie on	0.00	0.00	270.43	0.00	0.00	0.00	0.00	0.00
KOP	2400.00	0.00	270.43	2400.00	0.00	0.00	0.00	0.00
Target End of Build	3348.00	15.72	270.43	3326.18	0.00	-101.15	101.15	3.00
Target	10028.63	15.72	270.43	9800.00	14.27	-2813.77	2815.22	0.00
T.D. & End of Drop/Tack	10671.39	13.80	270.43	10000.00	15.18	-2913.39	2915.45	3.00



CHESAPEAKE OPERATING, INC.
Limestone Draw Federal 1

slot #1
UNKNOWN
Eddy County New Mexico

P R O P O S A L L I S T I N G

by
Baker Hughes INTEQ

Your ref : Plan 2
Our ref : prop4005
License :

Date printed : 18-Sep-2003
Date created : 18-Sep-2003
Last revised : 18-Sep-2003

Field is centred on 466070.125,558189.166,999.00000,N
Structure is centred on n32 30 0.000,w104 15 0

Slot location is n32 30 0.000,w104 15 0.000
Slot Grid coordinates are N 545622.802, E 525691.731
Slot local coordinates are 0.00 N 0.00 E

Projection type: mercator - New Mexico East (3001), Spheroid: Clarke - 1866

Reference North is Grid North

Measured Inclin Azimuth True Vert R E C T A N G U L A R Dogleg Vert G R I D C O O R D S

Depth	Degrees	Degrees	Depth	COORDINATES		Deg/100ft	Sect	Easting	Northing
0.00	0.00	270.43	0.00	0.00N	0.00E	0.00	0.00	525691.73	545622.80
500.00	0.00	270.43	500.00	0.00N	0.00E	0.00	0.00	525691.73	545622.80
1000.00	0.00	270.43	1000.00	0.00N	0.00E	0.00	0.00	525691.73	545622.80
1500.00	0.00	270.43	1500.00	0.00N	0.00E	0.00	0.00	525691.73	545622.80
2000.00	0.00	270.43	2000.00	0.00N	0.00E	0.00	0.00	525691.73	545622.80
2500.00	0.00	270.43	2500.00	0.00N	0.00E	0.00	0.00	525691.73	545622.80
2600.00	0.00	270.43	2600.00	0.00N	0.00E	0.00	0.00	525691.73	545622.80
2700.00	2.00	270.43	2699.98	0.01N	1.75W	2.00	1.75	525689.99	545622.81
2800.00	4.00	270.43	2799.84	0.05N	6.98W	2.00	6.98	525684.75	545622.85
2900.00	6.00	270.43	2899.45	0.12N	15.69W	2.00	15.69	525676.04	545622.92
3000.00	8.00	270.43	2998.70	0.21N	27.88W	2.00	27.88	525663.85	545623.01
3100.00	10.00	270.43	3097.47	0.32N	43.52W	2.00	43.52	525648.21	545623.13
3200.00	12.00	270.43	3195.62	0.47N	62.60W	2.00	62.60	525629.13	545623.27
3300.00	14.00	270.43	3293.06	0.64N	85.09W	2.00	85.10	525606.64	545623.44
3386.00	15.72	270.43	3376.18	0.80N	107.15W	2.00	107.15	525584.58	545623.60
3400.00	15.72	270.43	3389.65	0.83N	110.94W	0.00	110.94	525580.79	545623.63
3500.00	15.72	270.43	3485.91	1.03N	138.04W	0.00	138.04	525553.70	545623.83
3600.00	15.72	270.43	3582.17	1.23N	165.13W	0.00	165.13	525526.60	545624.03
3700.00	15.72	270.43	3678.43	1.44N	192.22W	0.00	192.23	525499.51	545624.24
3800.00	15.72	270.43	3774.69	1.64N	219.31W	0.00	219.32	525472.42	545624.44
3900.00	15.72	270.43	3870.95	1.84N	246.41W	0.00	246.41	525445.32	545624.64
4000.00	15.72	270.43	3967.21	2.04N	273.50W	0.00	273.51	525418.23	545624.84
4100.00	15.72	270.43	4063.47	2.25N	300.59W	0.00	300.60	525391.14	545625.05
4200.00	15.72	270.43	4159.73	2.45N	327.69W	0.00	327.70	525364.04	545625.25
4300.00	15.72	270.43	4255.99	2.65N	354.78W	0.00	354.79	525336.95	545625.45
4400.00	15.72	270.43	4352.25	2.85N	381.87W	0.00	381.88	525309.86	545625.65
4500.00	15.72	270.43	4448.51	3.06N	408.97W	0.00	408.98	525282.76	545625.86
4600.00	15.72	270.43	4544.77	3.26N	436.06W	0.00	436.07	525255.67	545626.06
4700.00	15.72	270.43	4641.03	3.46N	463.15W	0.00	463.17	525228.58	545626.26
4800.00	15.72	270.43	4737.29	3.66N	490.25W	0.00	490.26	525201.48	545626.47
4900.00	15.72	270.43	4833.55	3.87N	517.34W	0.00	517.35	525174.39	545626.67
5000.00	15.72	270.43	4929.81	4.07N	544.43W	0.00	544.45	525147.30	545626.87
5100.00	15.72	270.43	5026.07	4.27N	571.53W	0.00	571.54	525120.21	545627.07
5200.00	15.72	270.43	5122.33	4.47N	598.62W	0.00	598.63	525093.11	545627.28
5300.00	15.72	270.43	5218.59	4.68N	625.71W	0.00	625.73	525066.02	545627.48
5400.00	15.72	270.43	5314.85	4.88N	652.80W	0.00	652.82	525038.93	545627.68
5500.00	15.72	270.43	5411.10	5.08N	679.90W	0.00	679.92	525011.83	545627.89

5600.00	15.72	270.43	5507.36	5.29N	706.99W	0.00	707.01	524984.74	545628.09
5700.00	15.72	270.43	5603.62	5.49N	734.08W	0.00	734.10	524957.65	545628.29
5800.00	15.72	270.43	5699.88	5.69N	761.18W	0.00	761.20	524930.55	545628.49
5900.00	15.72	270.43	5796.14	5.90N	788.27W	0.00	788.29	524903.46	545628.70
6000.00	15.72	270.43	5892.40	6.10N	815.36W	0.00	815.38	524876.37	545628.90
6100.00	15.72	270.43	5988.66	6.30N	842.45W	0.00	842.48	524849.28	545629.10
6200.00	15.72	270.43	6084.92	6.50N	869.55W	0.00	869.57	524822.18	545629.31
6300.00	15.72	270.43	6181.18	6.71N	896.64W	0.00	896.67	524795.09	545629.51
6400.00	15.72	270.43	6277.44	6.91N	923.73W	0.00	923.76	524768.00	545629.71
6500.00	15.72	270.43	6373.70	7.11N	950.83W	0.00	950.85	524740.90	545629.92
6600.00	15.72	270.43	6469.96	7.32N	977.92W	0.00	977.95	524713.81	545630.12
6700.00	15.72	270.43	6566.22	7.52N	1005.01W	0.00	1005.04	524686.72	545630.32
6800.00	15.72	270.43	6662.48	7.72N	1032.10W	0.00	1032.13	524659.63	545630.53

All data in feet unless otherwise stated, Calculation uses minimum curvature method.
Coordinates from slot #1 and TVD from rotary table.
Bottom hole distance is 2012.45 on azimuth 270.43 degrees from wellhead.
Vertical section is from N 0.00 E 0.00 on azimuth 270.43 degrees.
Grid is mercator - New Mexico East (3001).
Grid coordinates in FEET and computed using the Clarke - 1866 spheroid
Presented by Baker Hughes INTEQ

Measured Depth	Inclin Degrees	Azimuth Degrees	True Vert Depth	RECTANGULAR COORDINATES	Dogleg Deg/100ft	Vert Sect	GRID COORDS Easting	Northing
6900.00	15.72	270.43	6758.74	7.93N 1059.20W	0.00	1059.21	524632.53	545630.73
7000.00	15.72	270.43	6855.00	8.13N 1086.29W	0.00	1086.32	524605.44	545630.93
7100.00	15.72	270.43	6951.26	8.33N 1113.38W	0.00	1113.41	524578.35	545631.14
7200.00	15.72	270.43	7047.52	8.54N 1140.48W	0.00	1140.51	524551.25	545631.34

7300.00	15.72	270.43	7143.78	8.74N	1167.57W	0.00	1167.60	524524.16	545631.54
7400.00	15.72	270.43	7240.04	8.95N	1194.66W	0.00	1194.70	524497.07	545631.75
7500.00	15.72	270.43	7336.30	9.15N	1221.75W	0.00	1221.79	524469.98	545631.95
7600.00	15.72	270.43	7432.56	9.35N	1248.85W	0.00	1248.88	524442.88	545632.15
7700.00	15.72	270.43	7528.82	9.56N	1275.94W	0.00	1275.98	524415.79	545632.36
7800.00	15.72	270.43	7625.08	9.76N	1303.03W	0.00	1303.07	524388.70	545632.56
7900.00	15.72	270.43	7721.34	9.96N	1330.13W	0.00	1330.16	524361.61	545632.77
8000.00	15.72	270.43	7817.60	10.17N	1357.22W	0.00	1357.26	524334.51	545632.97
8100.00	15.72	270.43	7913.86	10.37N	1384.31W	0.00	1384.35	524307.42	545633.17
8200.00	15.72	270.43	8010.12	10.57N	1411.40W	0.00	1411.44	524280.33	545633.38
8300.00	15.72	270.43	8106.38	10.78N	1438.50W	0.00	1438.54	524253.23	545633.58
8400.00	15.72	270.43	8202.64	10.98N	1465.59W	0.00	1465.63	524226.14	545633.78
8500.00	15.72	270.43	8298.90	11.19N	1492.68W	0.00	1492.72	524199.05	545633.99
8600.00	15.72	270.43	8395.16	11.39N	1519.77W	0.00	1519.82	524171.96	545634.19
8700.00	15.72	270.43	8491.42	11.59N	1546.87W	0.00	1546.91	524144.86	545634.40
8800.00	15.72	270.43	8587.68	11.80N	1573.96W	0.00	1574.00	524117.77	545634.60
8900.00	15.72	270.43	8683.94	12.00N	1601.05W	0.00	1601.10	524090.68	545634.80
9000.00	15.72	270.43	8780.20	12.21N	1628.14W	0.00	1628.19	524063.59	545635.01
9100.00	15.72	270.43	8876.46	12.41N	1655.24W	0.00	1655.28	524036.49	545635.21
9200.00	15.72	270.43	8972.72	12.61N	1682.33W	0.00	1682.38	524009.40	545635.42
9300.00	15.72	270.43	9068.98	12.82N	1709.42W	0.00	1709.47	523982.31	545635.62
9400.00	15.72	270.43	9165.24	13.02N	1736.51W	0.00	1736.56	523955.22	545635.82
9500.00	15.72	270.43	9261.50	13.23N	1763.61W	0.00	1763.66	523928.12	545636.03
9600.00	15.72	270.43	9357.76	13.43N	1790.70W	0.00	1790.75	523901.03	545636.23
9700.00	15.72	270.43	9454.01	13.64N	1817.79W	0.00	1817.84	523873.94	545636.44
9800.00	15.72	270.43	9550.27	13.84N	1844.88W	0.00	1844.94	523846.85	545636.64
9900.00	15.72	270.43	9646.53	14.04N	1871.98W	0.00	1872.03	523819.75	545636.85
10000.00	15.72	270.43	9742.79	14.25N	1899.07W	0.00	1899.12	523792.66	545637.05
10059.43	15.72	270.43	9800.00	14.37N	1915.17W	0.00	1915.22	523776.56	545637.17
10100.00	15.31	270.43	9839.09	14.45N	1926.02W	1.00	1926.08	523765.71	545637.25
10200.00	14.31	270.43	9935.77	14.64N	1951.59W	1.00	1951.65	523740.14	545637.45
10300.00	13.31	270.43	10032.87	14.82N	1975.47W	1.00	1975.52	523716.26	545637.63
10400.00	12.31	270.43	10130.38	14.99N	1997.64W	1.00	1997.70	523694.09	545637.79
10471.16	11.60	270.43	10200.00	15.10N	2012.39W	1.00	2012.45	523679.34	545637.90

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Coordinates from slot #1 and TVD from rotary table.
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Comments in wellpath

MD	TVD	Rectangular Coords.		Comment
3386.00	3376.18	0.80N	107.15W	End of Build

Casing positions in string 'A'

Top MD	Top TVD	Rectangular Coords.		Bot MD	Bot TVD	Rectangular Coords.		Casing
0.00	0.00	0.00N	0.00E	400.00	400.00	0.00N	0.00E	13 3/8"
0.00	0.00	0.00N	0.00E	2500.00	2500.00	0.00N	0.00E	9 5/8"

Targets associated with this wellpath

Target name	Geographic Location	T.V.D.	Rectangular Coordinates		Revised
End of Build		3376.18	0.80N	107.15W	18-Sep-2003
Tgt		9800.00	15.00N	2015.00W	18-Sep-2003