ATS-10-324

Form 3160-3
(August 2007)

EC

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
MAY 04 2010
NMOCD ARTESIA

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☐ DRILL ☒ REENTER	5. Lease Serial No. NMNM28096
	6. If Indian, Allottee or Tribe Name
	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. DEER TRACK 14 FEDERAL 1 (38159)
2. Name of Operator READ & STEVENS (18917) Contact: DAVID LUNA E-Mail: dluna@read-stevens com	9. API Well No. 30-015-25839
3a. Address P. O. BOX 1518 ROSWELL, NM 88202-1518	3b. Phone No. (include area code) Ph: 575-622-3770 Ext: 213 Fx: 575-622-8643
	10. Field and Pool, or Exploratory SHUGART YATES-7 RVRS-QUEE (56439)
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface 660FSL 1980FWL At proposed prod. zone 660FSL 1980FWL	11. Sec., T., R., M., or Blk. and Survey or Area Sec 14 T18S R31E Mer NMP
14. Distance in miles and direction from nearest town or post office* 10 AIR MILES SE OF LOCO HILLS, NM	12. County or Parish EDDY COUNTY / 13. State NM
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'	16. No of Acres in Lease 40.00 / 17. Spacing Unit dedicated to this well 40
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 100'	19. Proposed Depth 6675 MD 6675 TVD / 20. BLM/BIA Bond No. on file 2310
21. Elevations (Show whether DF, KB, RT, GL, etc. 3694 GL	22. Approximate date work will start 04/15/2010 / 23. Estimated duration

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	Name (Printed/Typed)	Date
(Electronic Submission)	DAVID LUNA Ph: 575-622-3770 Ext: 213	02/24/2010

Title: PETROLEUM ENGINEER

Approved by (Signature)	Name (Printed/Typed)	Date
/s/ James Stovall		APR 29 2010
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 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.

Additional Operator Remarks (see next page)

Electronic Submission #81844 verified by the BLM Well Information System
For READ & STEVENS, sent to the Carlsbad

Capitan Controlled Water Basin

KZ

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

SEE ATTACHED FOR CONDITIONS OF APPROVAL

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(505) 393-6161 Fax (505) 393-0720
District II
1301 W. Grand Ave , Artesia, NM 88210
Phone (505) 748-1283 Fax.(505) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax (505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-102
Permit 109338

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2. Pool Code	3. Pool Name
30-015-25839	56439	SHUGART;YATES-7RS-QU-GRAYBURG

4. Property Code	5. Property Name	6. Well No.
38159	DEER TRACK 14 FEDERAL	001

7. OGRID No.	8 Operator Name	9 Elevation
18917	READ & STEVENS INC	3694

10. Surface Location

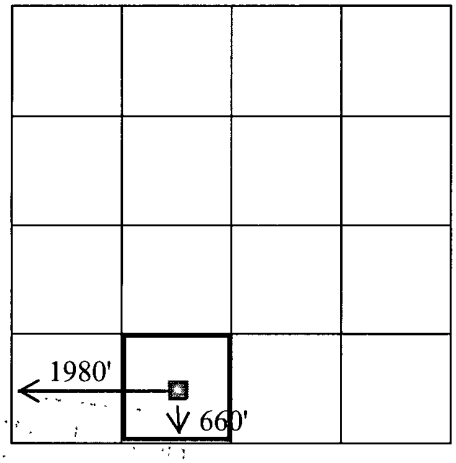
UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
N	14	18S	31E		660	S	1980	W	EDDY

11. Bottom Hole Location If Different From Surface

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County

12. Dedicated Acres	13. Joint or Infill	14. Consolidation Code	15. Order No.
40 0.00			

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(s) or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the

David Luna
cn=David Luna, o=Read & Stevens, Inc., ou, email=dluna@read-stevens.com, c=US
2010.03.23 17:05:50 -06'00'

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Surveyed By: John West
Date of Survey: Nov. 10, 1987
Certificate Number: 676 & 3239

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

Operator	Lease	Well No.
Arco Oil & Gas Co.	Swearingen Deep 14 Fed.	1

Unit Letter	Section	Township	Range	County
N	14	18 South	31 East	Eddy

Actual Footage Location of Well:
1980 feet from the West line and 660 feet from the South line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
3694.2	Bone Springs	Wildcat	40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

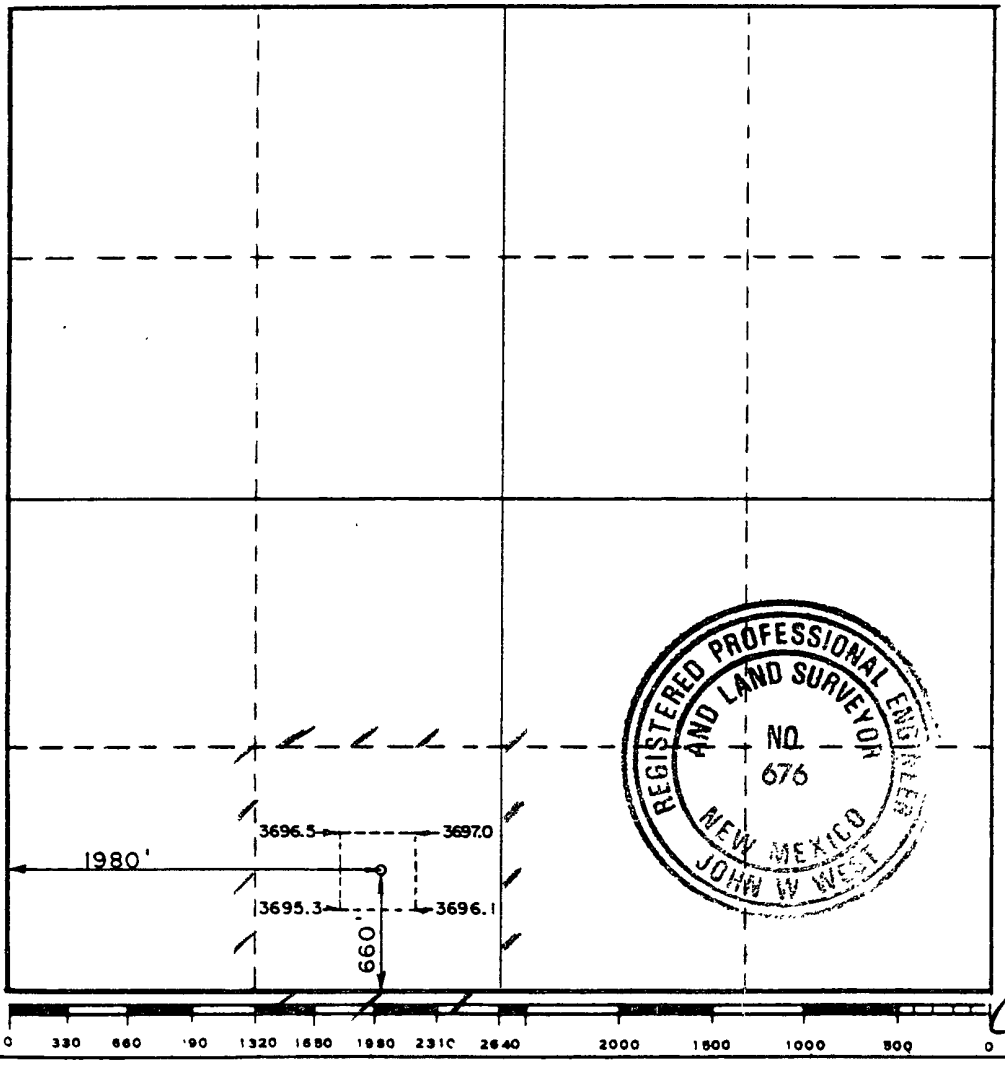
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



98560

CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name: J. D. Swearingen

Position: Drilling Engineer

Company: ARCO Oil and Gas Company

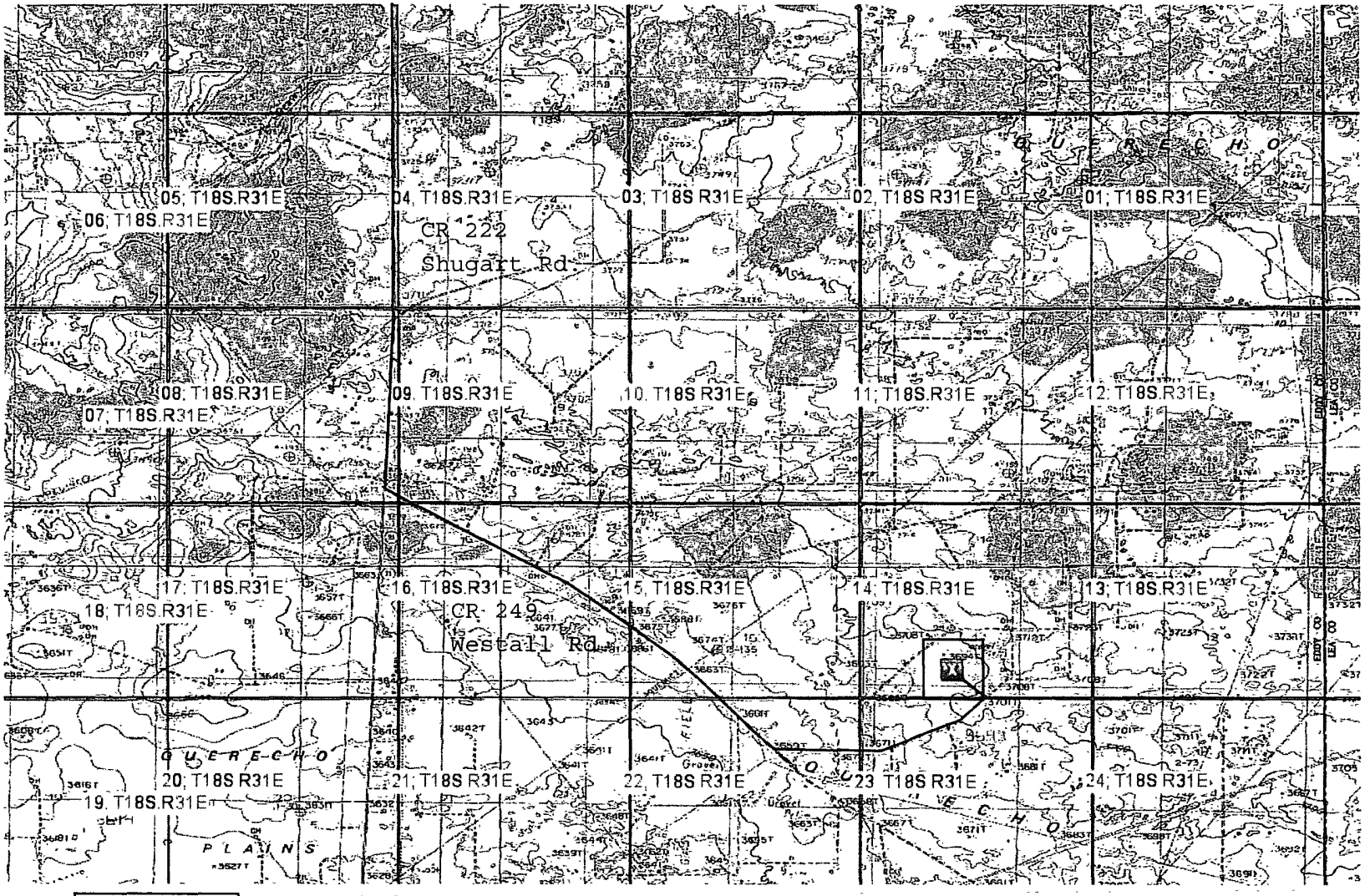
Date: November 18, 1987

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed: November 10, 1987

Registered Professional Engineer and/or Land Surveyor

Certificate No. JOHN W. WEST, 676
RONALD J. EIDSON, 3239



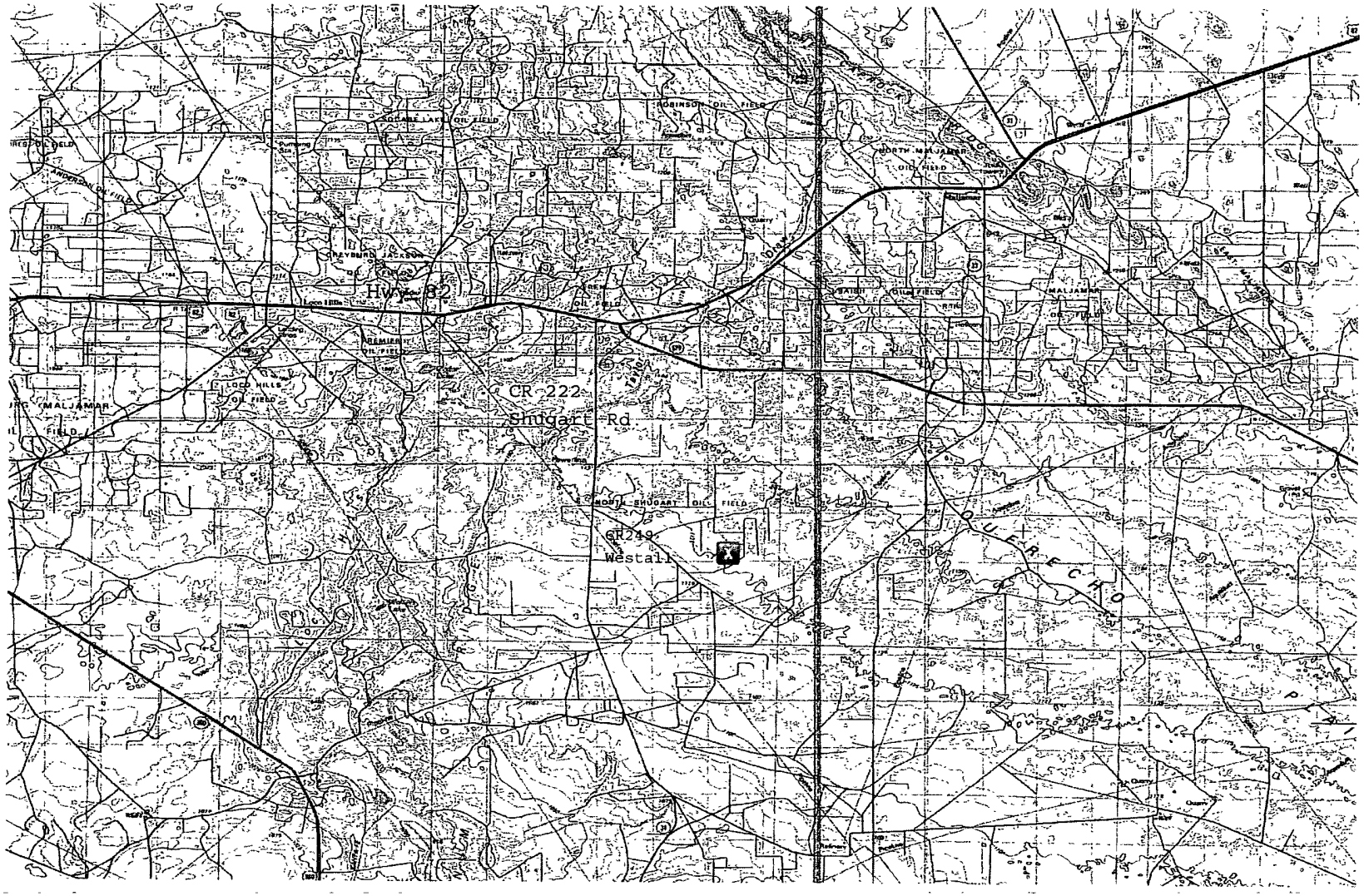
Existing Road

Proposed Road

0 2000 4000ft

N W E S

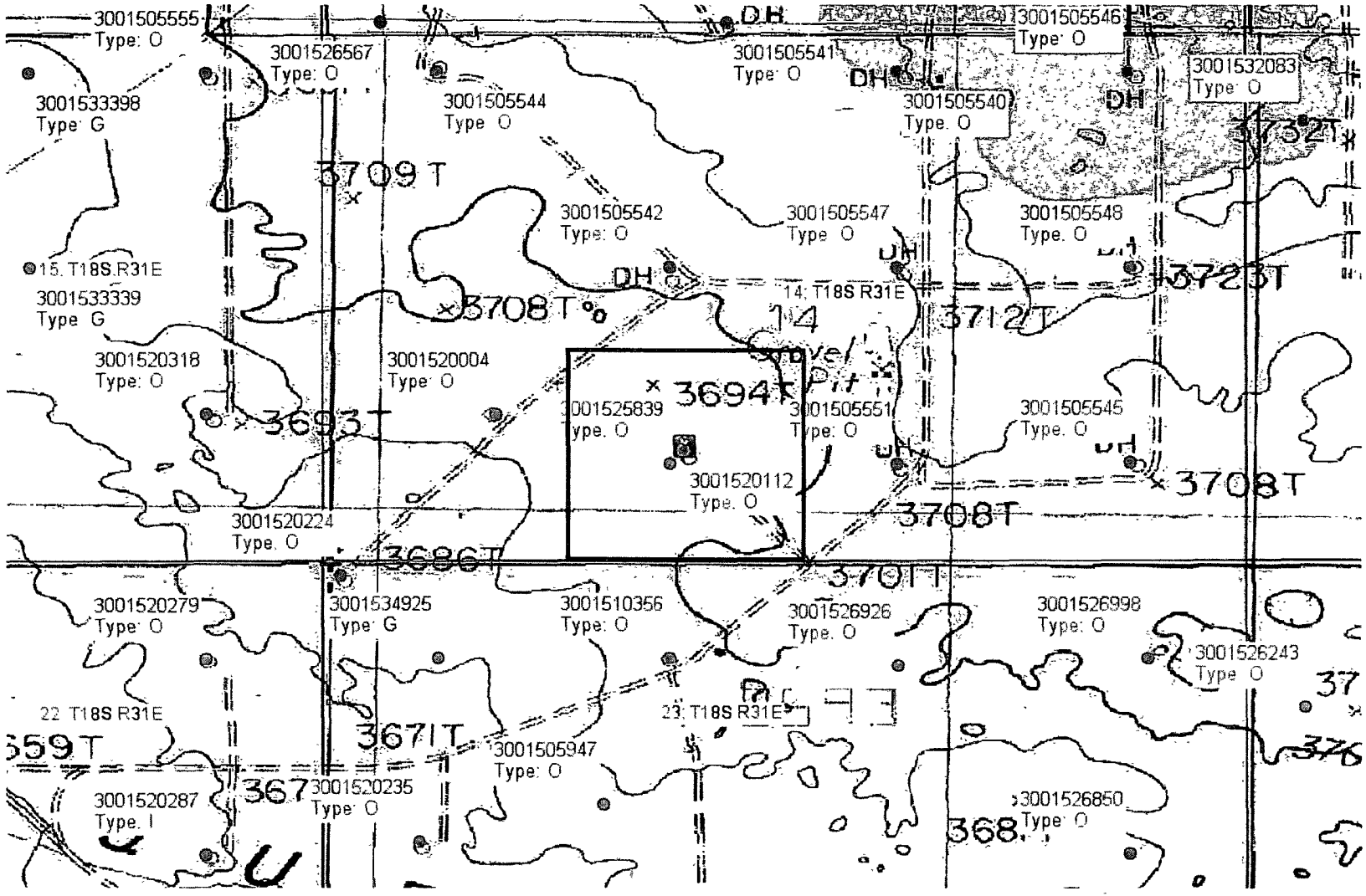
Petroleum Recovery Research Center	Read & Stevens, Inc.	Figure: "A"
	Location w/ Existing and Proposed Roads	Jan 28, 2010



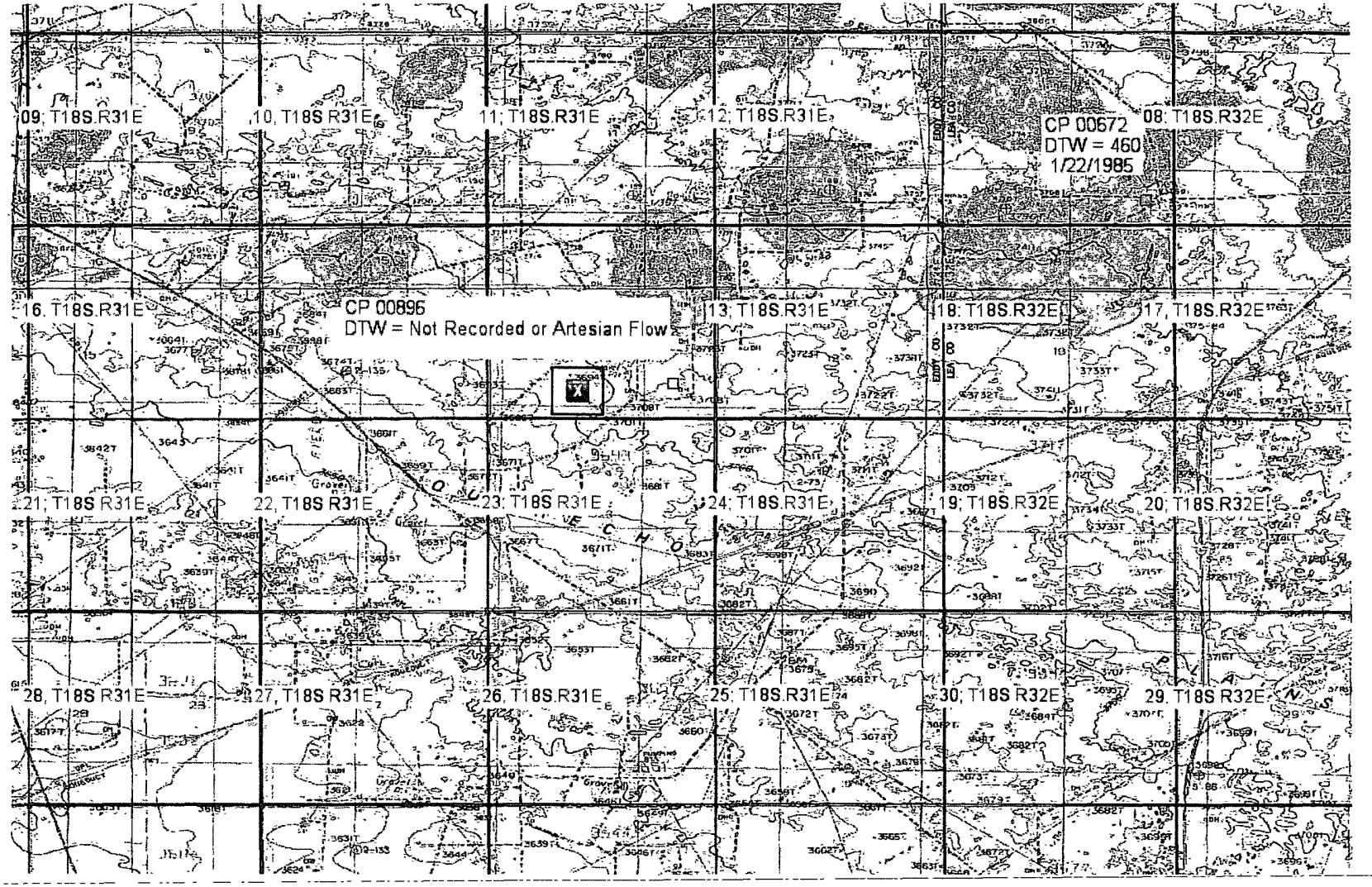
0 2 4mi

N W E S

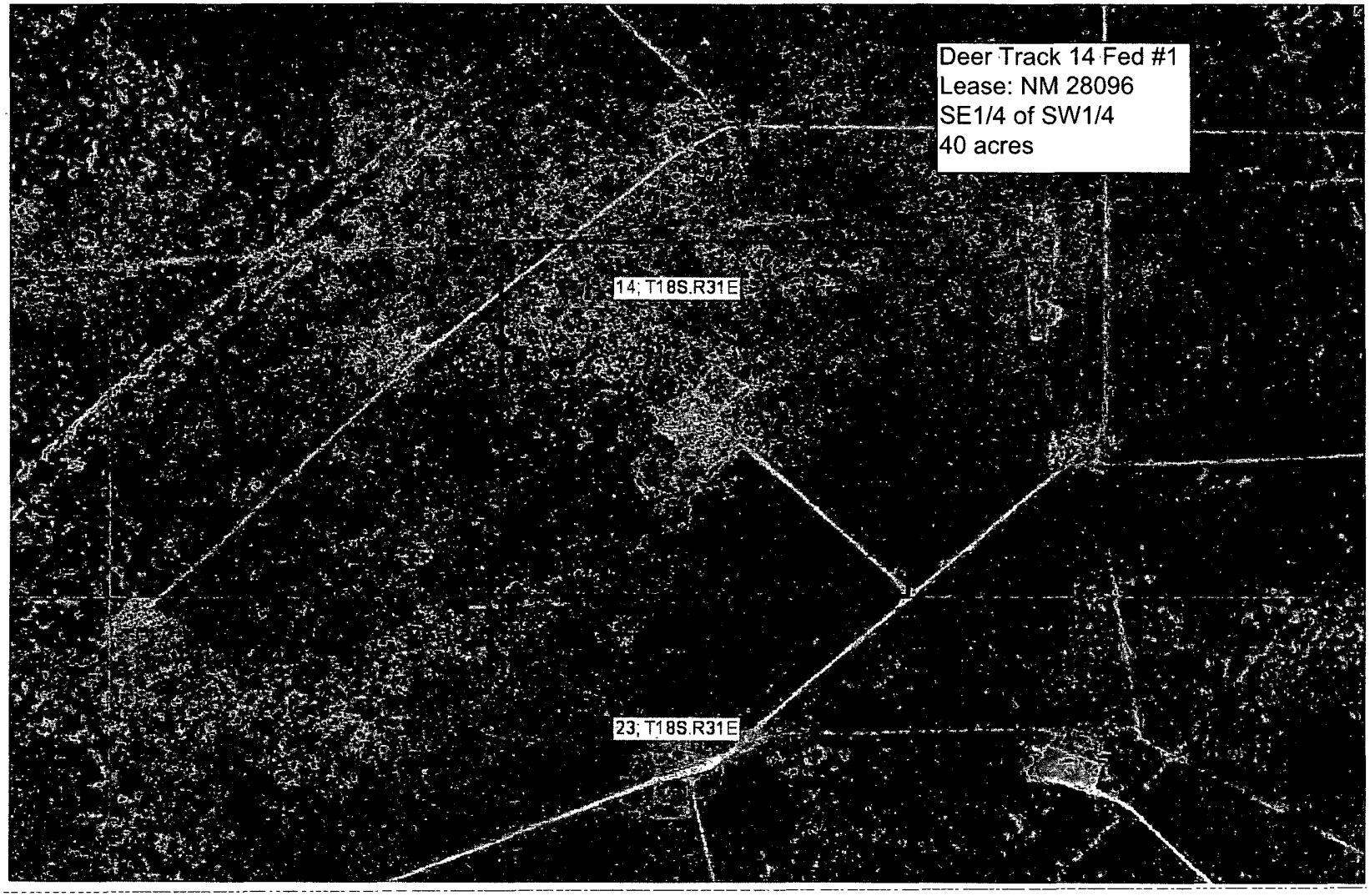
Petroleum Recovery Research Center	Read & Stevens, Inc.	Figure: "B"
	Area Map	Jan 28, 2010



Petroleum Recovery Research Center	Read & Stevens, Inc.	Figure: "C"
	Wells within one mile using API #	Jan 28, 2010



Petroleum Recovery Research Center	Read & Stevens, Inc.	Figure: "F"
	Depth to water around 300'	Jan 28, 2010



0 200 400ft

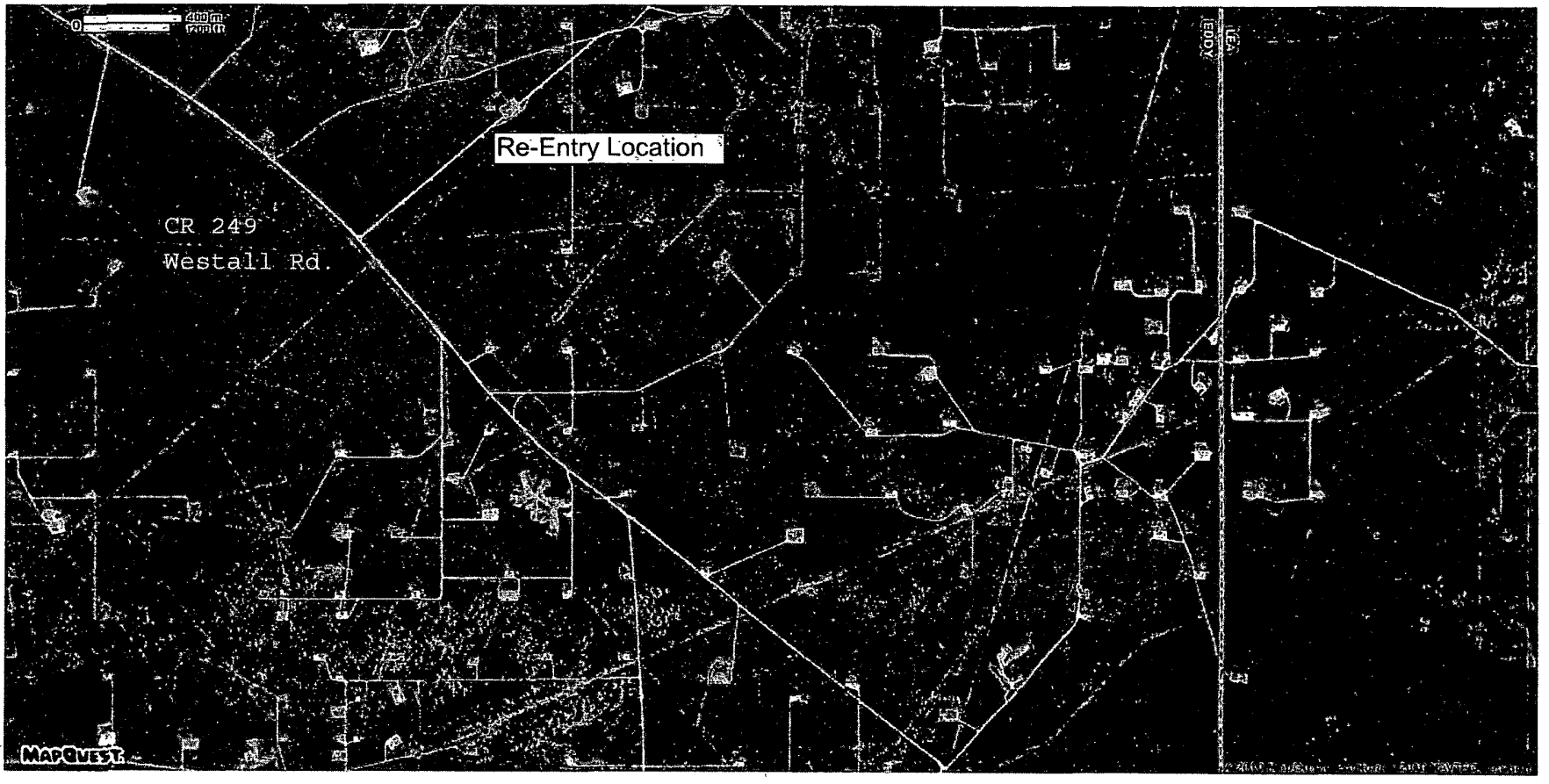
N
W E
S

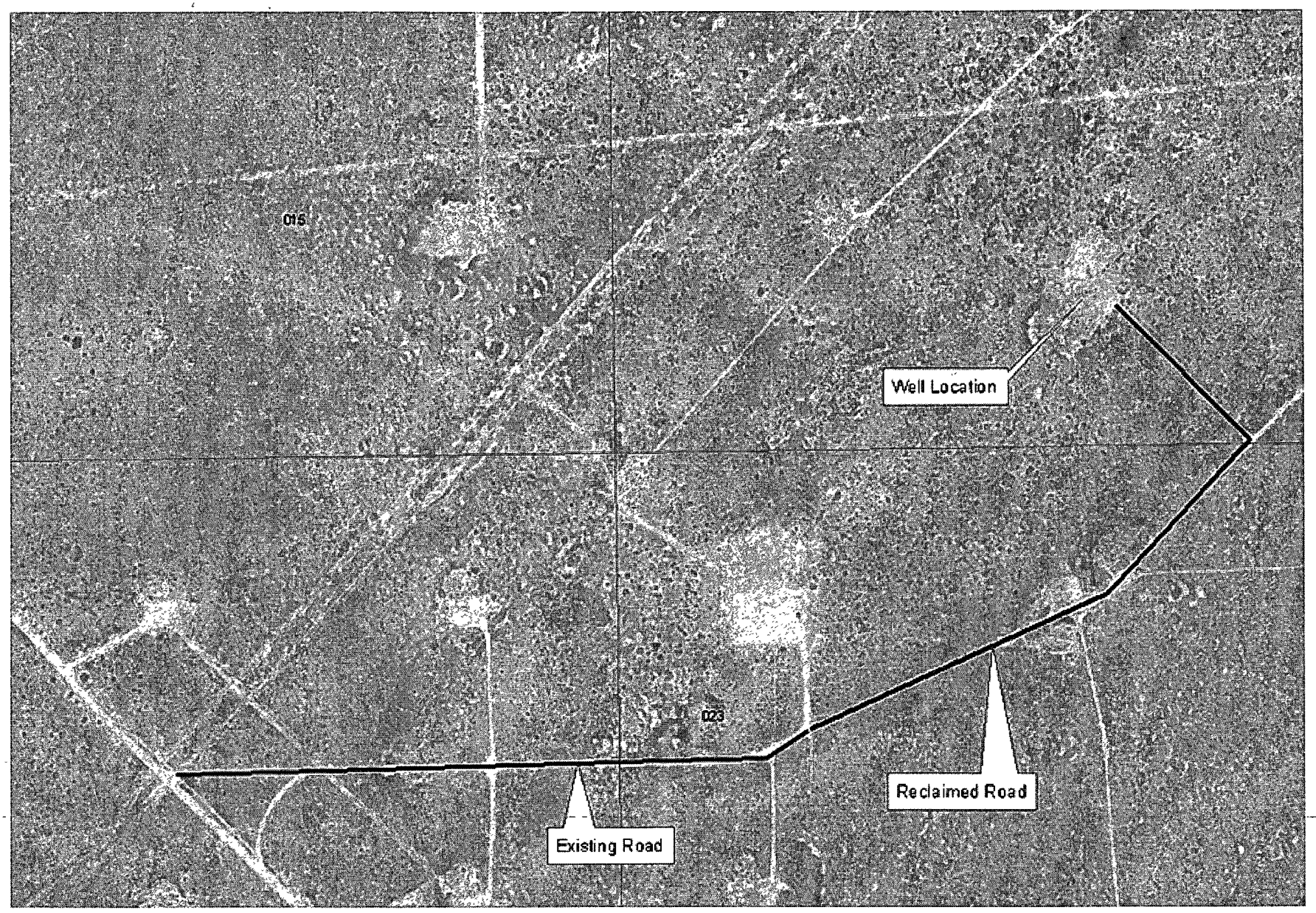
Petroleum Recovery Research Center	Read & Stevens, Inc.	Figure:
	Aerial Zoom of Location	Jan 28, 2010

MAPQUEST.

Sorry! When printing directly from the browser your directions or map may not print correctly. For best results, try clicking the Printer-Friendly button.

Maljamar, NM




015
023
Well Location
Reclaimed Road
Existing Road

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

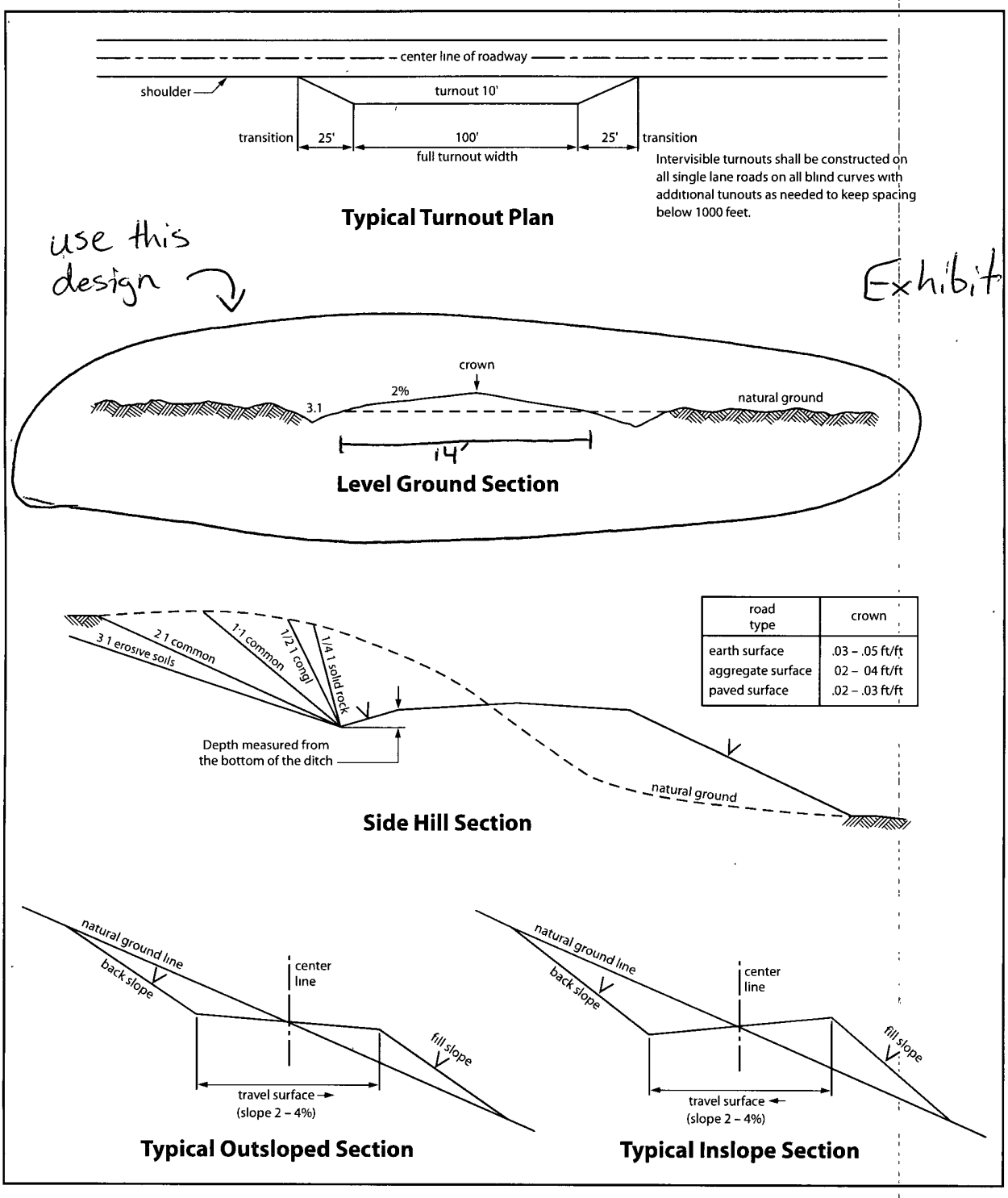


Figure 3. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

Additional Operator Remarks:

Read & Stevens, Inc. proposes to re-enter this well known as the Swearingen Deep 14 Federal #1 and rename this well to Deer Track 14 Federal #1.

Please see attached:

1. Drilling Plan
2. C-102
3. Surface Use Plan of Operations;
4. Exhibit "A" Location w/Existing and Proposed roads;
5. Exhibit "B" Area Map;
6. Exhibit "C" One Mile Radius Map;
7. Exhibit "D" Location of Proposed Facilities;
8. Exhibit "E" BOP and Manifold Schematic;
9. Exhibit "F" Depth to Water around 300'
10. Exhibit "G" Drilling and Completion Procedure;
11. Exhibit "H" Production Equipment Layout;
12. Aerial Zoom of Location;
13. Re-entry Location;
14. C-144 CLEZ Closed Loop System Plan;
15. Current Wellbore;
16. Proposed Wellbore.

Drilling Plan
Deer Track 14 Fed #1
660' FSL & 1980' FWL
Sec 14 –T18S – R31E, Eddy Co., NM
API: 30-015-25839
Lease Number: NM-28096
Field/Pool: # , Shugart Yates-7rvrs-Queen-Grayburg

Tops:

Formation	Depth below Ground level (ft)
DTW (Exhibit "F")	300+
TOS	1400
BOS	2050
Yates	2314
Queen	3400
Grayburg	3900
San Andres	4328

Pay info: Grayburg (Oil), 4200', Pressure=1800 psi, Temp=129 deg F

Potential Hazards/Abnormal Conditions: Possible H2S. H2S plan is attached.

Casing Program:

Depth (ft)	Hole Size (in)	Casing Size/Wt/Grade/Thds	Coll	Burst	Tens	Cement
0'-423': installed 4/9/1988	17 1/2	13 3/8 54.4# (no other info)				600 sx Class A, 4 sx CACL, TOC=Surf.
0'-2397': installed 4/13/1988	11	8 5/8 24# K-55				1250 sx Class C, ¼ C.F. 14.8#,Circ 300 sx surface
1520'-9340': installed 5/13/1988	7 7/8"	5 ½ 17# L-80 & K-55				1st stg:600sx H, 2nd stg:1350 sx 50/50 poz w/.6% FL-20, ¼# cf (14.4#), TOC=1900'
0'-1520': Proposed new casing		5 ½ 17# J-55 LTC (new)	2.1	2.2	3.9	110 sx Class C, 1.34 yield, 14.8#, 2% CACL, TOC=800'

Mud Program:

See COA

Depth (ft)	Mud Type	Weight (ppg)	Vis (sec)	Fluid Loss (cc)
0-5000	Brine	10	28	NC

P&A Info: Plugged 5/16/1997
Casing Removal: 5 1/2" was cut off at 1520'
Cement Plugs: 7700', 6675-6825', 3400'-3500', 2350-2450, 1385-1520 (top of 5 ½"), 375-475, 15 sacks @ surface (50')
Original Hole: 7 7/8" (2397'-9340')

BOP Equipment: Exhibit "E"

BOPE to be installed on 8 5/8" casing rated to 3,000 psi working pressure, and pressure tested prior to drilling out the cement plugs. During Completion the BOPE will also be installed on the new 5 1/2" casing rated to 3,000 psi working pressure, and tested prior to drilling out the remaining plugs.

No Testing or Coring. Logging will include CBL from 5000'-TOC (800').

Read & Stevens. Drilling & Completion Procedure: Exhibit "G"

Drilling and Completion Procedure **Exhibit "G"**
READ & STEVENS, INC
Deer Track ReEntry

API NUMBER: 30-015-25839 **LSE #: NM-28096**
WELL NAME: Deer Track 14 Federal #1
FIELD NAME: Shugart: Yates-7Rvs-Queen-Grayburg
LOCATION: Eddy County, New Mexico Sec.14 T18S-R31E, 660 FSL, 1980 FWL
TD: Original: 9340' Proposed PB: 6675'
Hole Size: 7 7/8"

ELEVATIONS: GL 3694', KB 3708' (14')
CSG: 13 3/8" 54.5# @423' (TOC=Surface), 8 5/8"24#J55@ 2397' (TOC=Surface), 5 ½" 17# @9340' (TOC=1900' CBL) top cut at 1520'
P&A INFO: Plugs: 7700', 6675-6825', 3400'-3500', 2350-2450, 1385-1520 (top of 5 ½"), 375-475, 15 sacks @ surface (50')
PROPOSED PERFS: Grayburg: **4124-26, 51-54, 58-60, 72-75** (20 shots)
Wellbore: Exhibit A: Current Exhibit B: Proposed

CONTACT LIST

Operator:	Read & Stevens, Inc.		575 622-3770 8-5 M-F Office
400 Penn Plaza, Suite 1000	Roswell,NM 88201		575 622-8643 fax
Company Rep:	Will Palmer	390-2424	
	Joe Tovar	390-2425	
Engineer:	David Luna	622-3770, ext.213	626-9395 cellular

Procedure:

Before moving in:

a) Level road. Level location.
b) Test and install guyline anchors as needed
c) Locate electrical lines and supplier along with gas sales lines and purchaser

Day 1) MIRU completion unit. NU BOP (8 5/8" x 5 ½" x 2 7/8") Receive and rack 2 7/8" workstring. RU reverse unit. RIH w/6 1/8" OD milled tooth bit, (6) 4 ½" drill collars, 2 7/8" tubing drilling cement plugs to 1385'.

Day 2) Drill cement plug to top of 5 ½" at 1520' (Note that there was a water flow when drilling at the depth). POOH w/tubing, tools. RIH w/6 1/8" concave mill, collars, tubing. Tag top of 5 ½" casing. Dress top of casing with mill for casing bowl. POOH w/tubing, tools.

Day 3) RIH w/5 ½" casing bowl, 5 ½" casing. Tag and catch top of 5 ½" casing at 1520'. Establish seal by pressuring casing to 500# holding for 15 minutes. Release pressure. Cut casing. ND BOP. Weld on bell nipple. Install tubing head. Plumb to surface. NU BOP (5 ½" x 2 7/8").

Day 4) RIH w/4 ¾" OD milled tooth bit, (6) 3 ½" drill collars, 2 7/8" tubing. Drill cement plugs to 4800'. Circulate hole clean. POOH w/tubing, tools.

Day 5) RU wireline. Run bond log from 4700' to TOC (around 1900'). **Perf Grayburg from 4124-26, 51-54, 58-60, 72-75 (2 spf, 20 holes, 120 degree phasing)**. POOH & RDWL. RIH w/5 ½" packer, 2 7/8" tubing. Set packer ~?'. Swab test.

Day 6) RU acid crew. Pressure casing to 500# and hold. Acidize well by pumping 1500 gallons 15% HCl via tubing spacing 26 ball sealers. Attempt ball out. RD acid crew. Swab test.

Day 7) Swab test. RD swab. Fracture stimulate well (see comments below). Swab load.

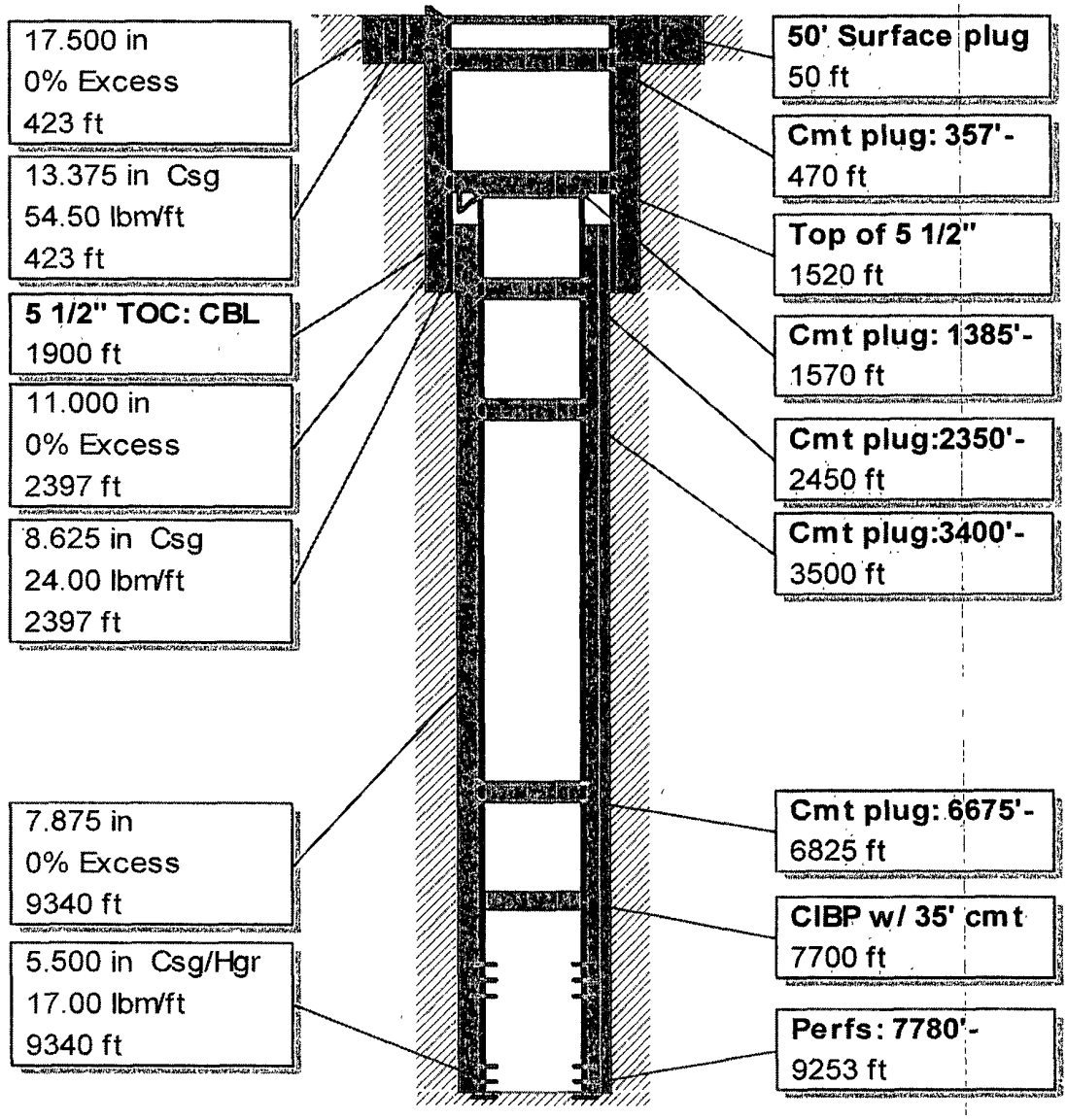
Day 8) Swab load. Once oil cut established; RD swab. Release packer. POOH laying down packer. RIH w/BHA, tubing. ND BOP. Land EOT ~4140'. Land seating nipple ~4110'. Set TAC ~4045'. NU wellhead.

Day 9) RIH with pump, rods. Clamp off. RDMOCU. Move in and erect pumping unit. Build and plumb tank battery. Start unit. Test to tanks.

Directions to Well:
From Loco Hills go east on Hwy 82 for 5 miles. South on CR 222 (Shugart Rd) 4 miles. East on CR 249 (Westall Rd) for 2.2 miles. Left (east) 1.2 miles. Left (NW) to location. See Map.

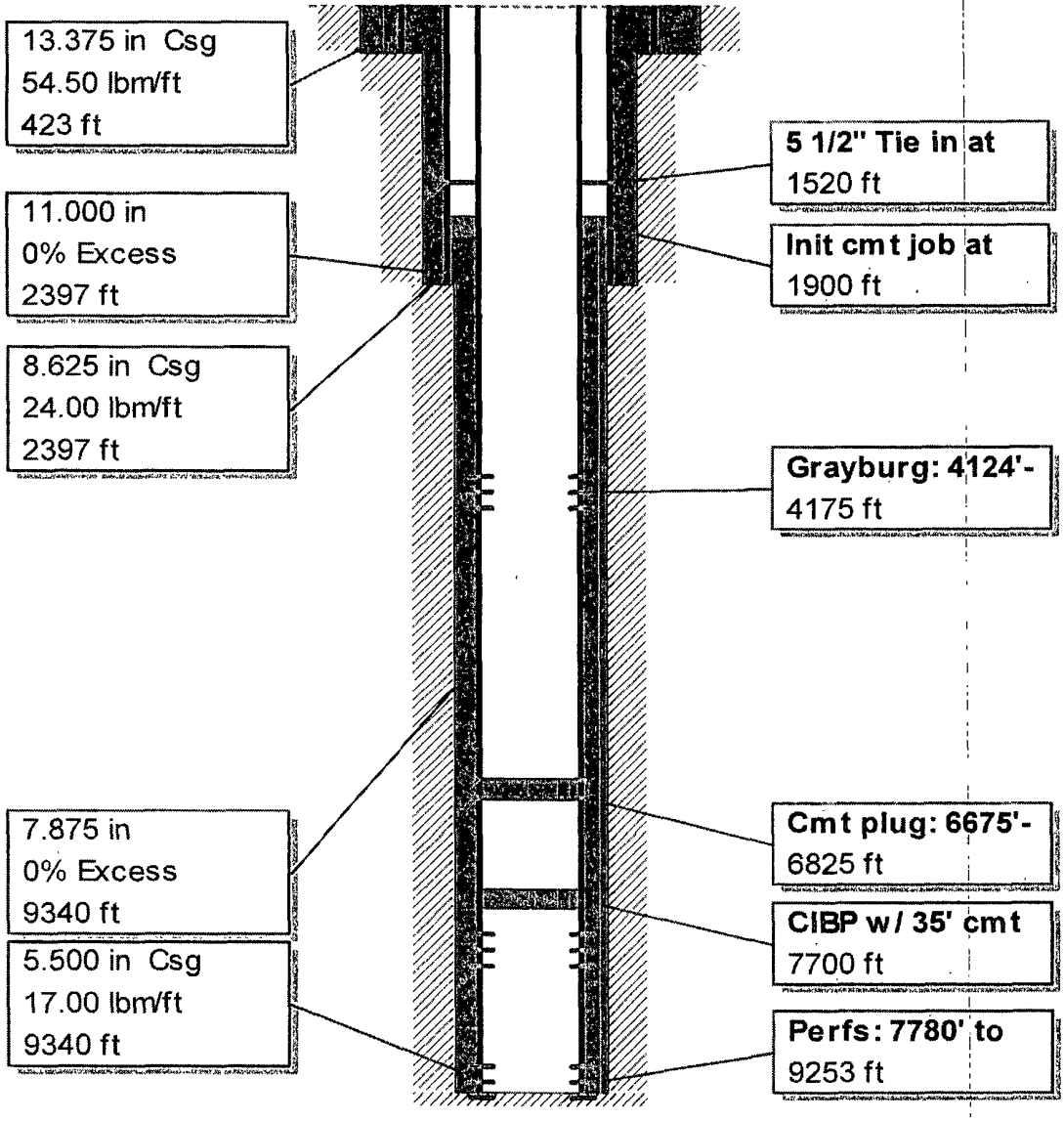
Frac comments:
Offset Frac did the following: (they fraced down 5 ½" casing. We will frac down 2 7/8") 23 holes. 32000 gals 30# XL, 8400# 100 Mesh, 32100# 20/40 Ottawa, 15900# 16/30 Ottawa, 14190# 16/30 RCS, AIR-25 BPM @ 1650, max-1790, FPIP-1368, ISIP-1286

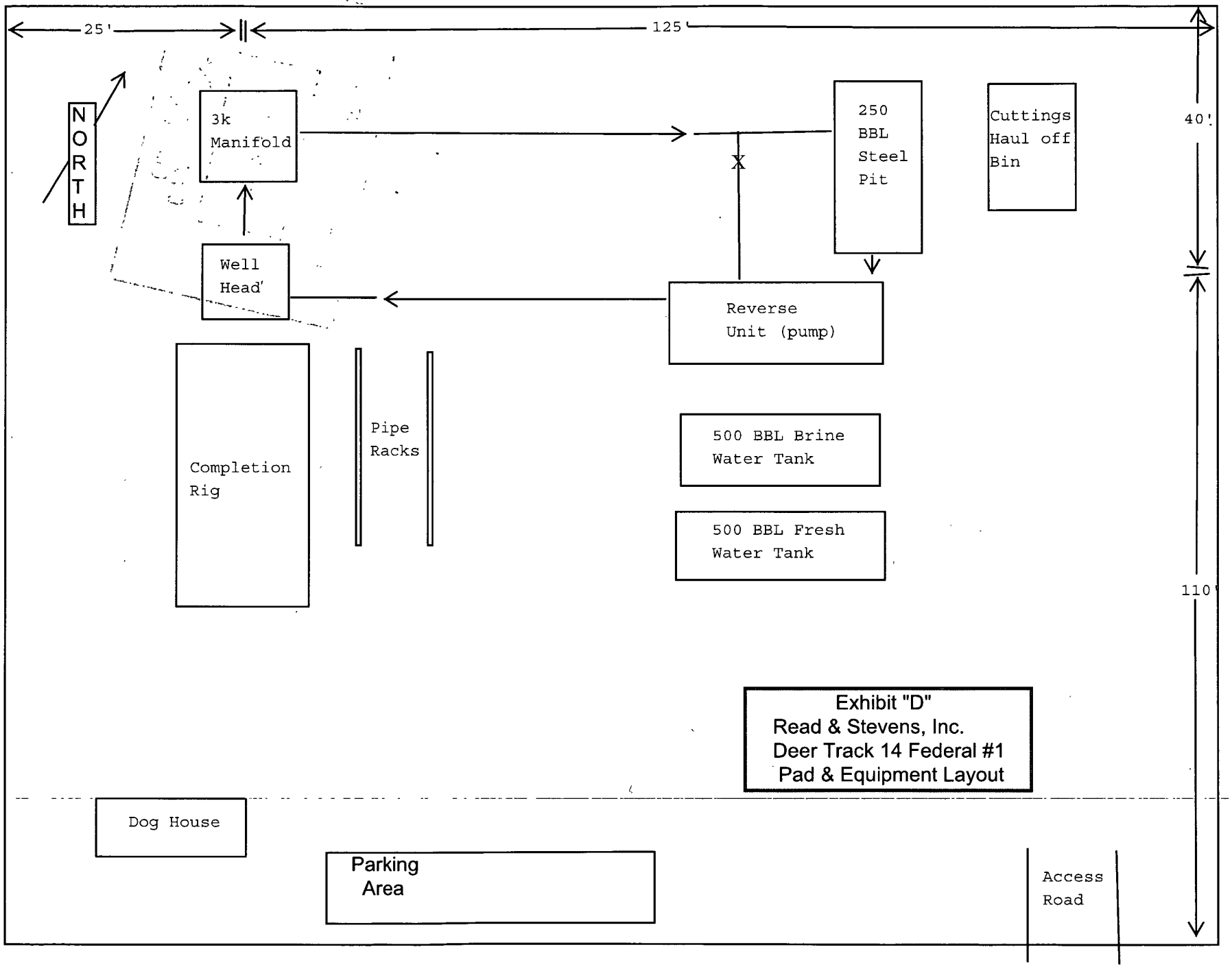
Deer Track 14 Federal #1
Read Stevens, Inc.
14-18S-31E,660FSL 1980FWL
Shugart: Yates-7 Rvrs-Queen-GB
GL 3694, KB 3708 (14'), API 30-015-25839
Previous Owner: Mack, Swearingen Deep 14 Fed #1
Spud: 4/9/88 PAed: 5/16/97
Lease: NM 28096, Unit Letter N
Exhibit A: Current Wellbore



i-Handbook* - *a mark of Schlumberger

Deer Track 14 Federal #1
Read Stevens, Inc.
14-18S-31E,660FSL 1980FWL
Shugart: Yates-7 Rvrs-Queen-GB
Lease: NM 28096, Unit Letter N
GL 3694, KB 3708 (14'), API 30-015-25839
Drill out cmt plugs, Tie in to 5 1/2, complete Grayburg
4124-26, 51-54, 58-60, 72-75 (2 spf, 20 shots, 120 deg)
Exhibit B: Proposed Wellbore




25'
125'
40'
110'
NORTH
3k Manifold
Well Head
250 BBL Steel Pit
Cuttings Haul off Bin
Reverse Unit (pump)
Completion Rig
Pipe Racks
500 BBL Brine Water Tank
500 BBL Fresh Water Tank
Exhibit "D"
Read & Stevens, Inc.
Deer Track 14 Federal #1
Pad & Equipment Layout
Dog House
Parking Area
Access Road

3k BOP & Manifold Schematic

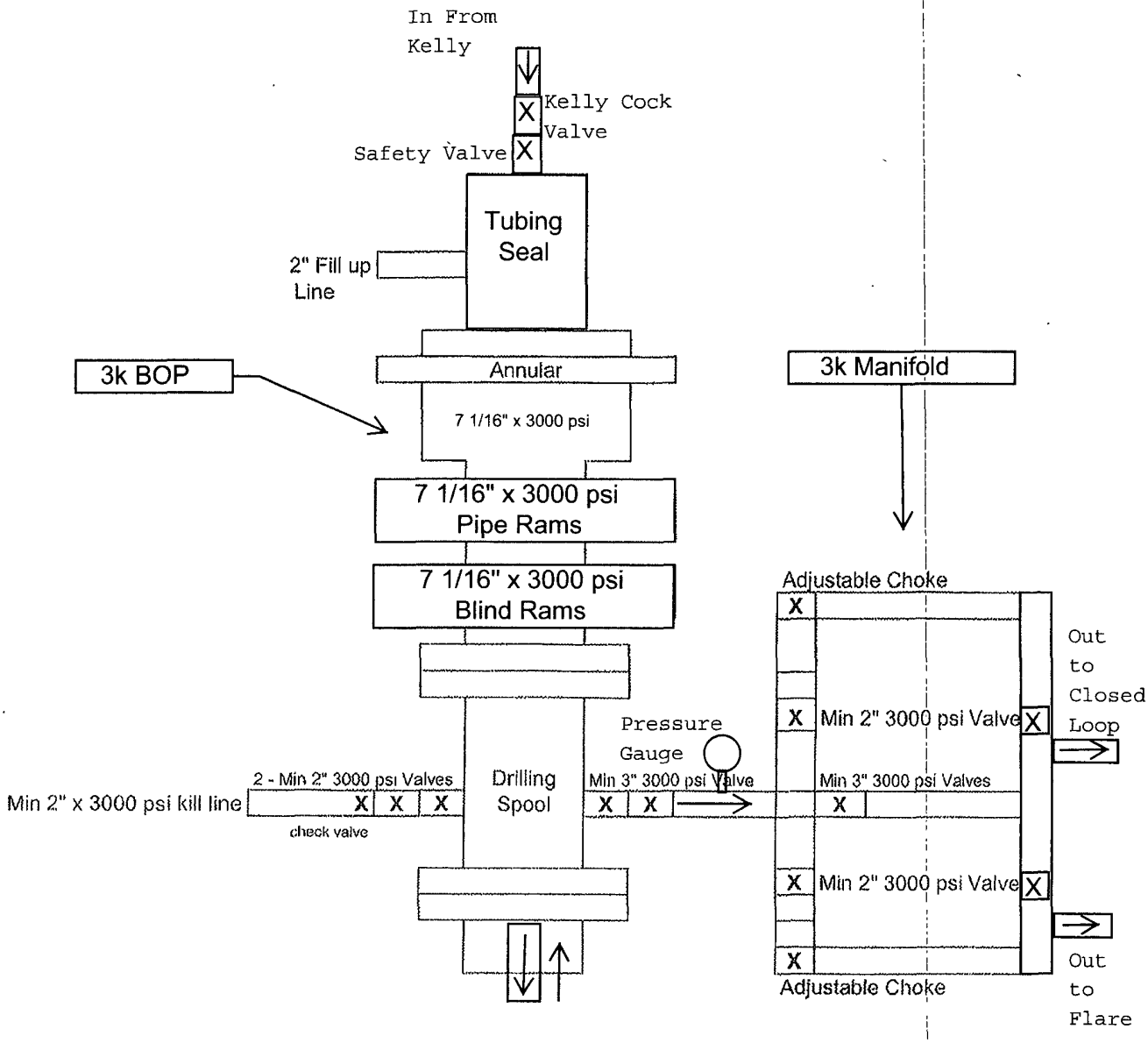
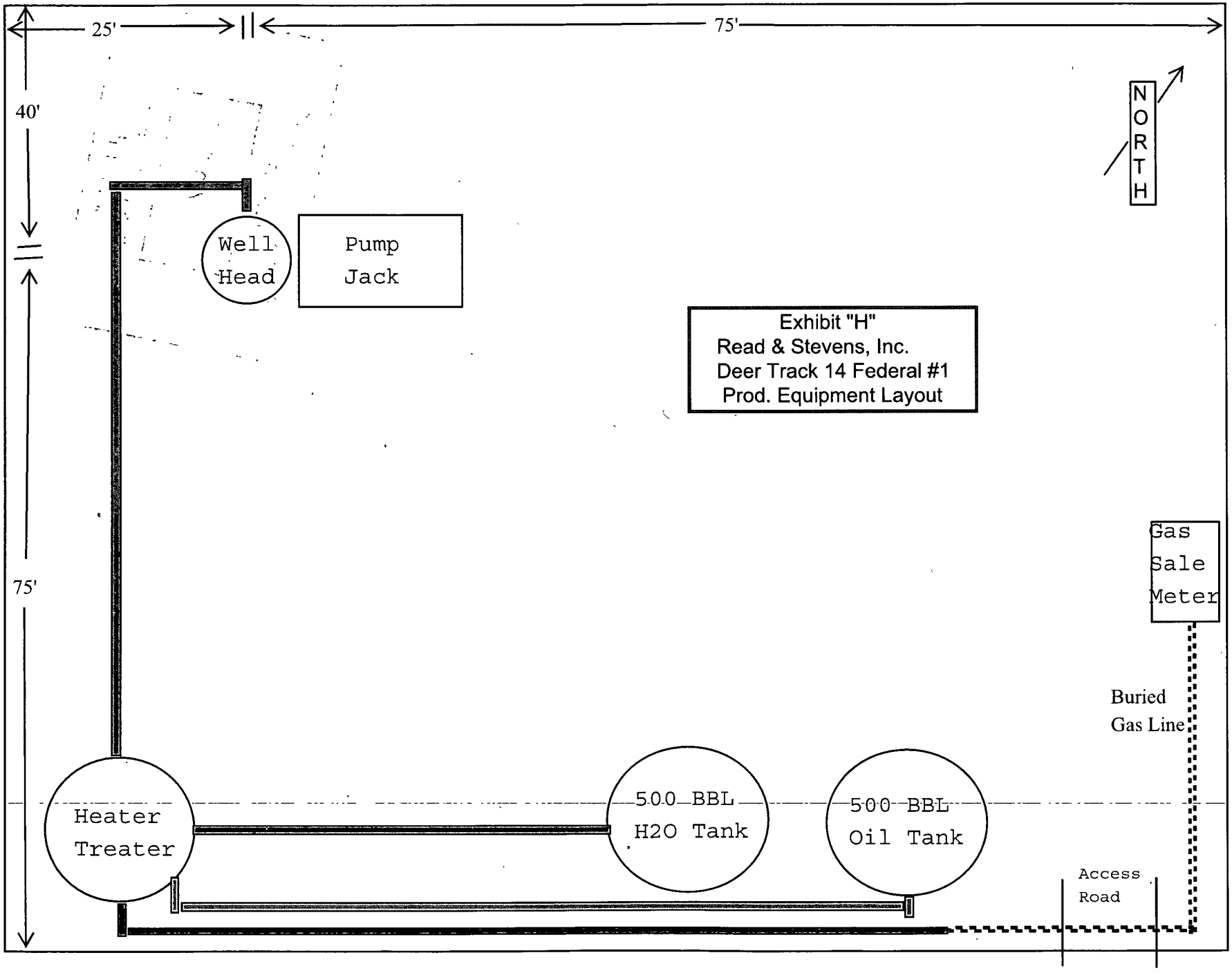


Exhibit "E"
Read & Stevens, Inc.
Deer Track 14 Federal #1
BOP & Manifold Specifications


25'
75'
40'
75'
NORTH
Well Head
Pump Jack
Exhibit "H"
Read & Stevens, Inc.
Deer Track 14 Federal #1
Prod. Equipment Layout
Gas Sale Meter
Buried Gas Line
Heater Treater
500 BBL H2O Tank
500 BBL Oil Tank
Access Road

READ & STEVENS, INC.
HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN
FOR DRILLING/COMPLETING/WORKOVER/FACILITY
WITH THE EXPECTATION OF H2S IN EXCESS OF 100 PPM

Deer Track 14 Federal #1
SECTION 14 T18S-31E
EDDY COUNTY, N.M.

TABLE OF CONTENTS

GENERAL H2S EMERGENCY ACTIONS:

In the event of an H2S emergency, the following plan will be initiated.

1) All personnel will immediately evacuate to an up-wind and if possible up-hill "safe area".

2) If for any reason a person must enter the hazardous area, they must wear a SCBA (Self contained breathing apparatus)

3) Always use the "buddy system"

4) Isolate the well/problem if possible.

5) Account for all personnel

6) Display the proper colors warning all unsuspecting personnel of the danger at hand.

7) Contact the Company personnel as soon as possible if not at the location. (use the enclosed call list as instructed)

At this point the company representative will evaluate the situation and co-ordinate the necessary duties to bring the situation under control,and if necessary,the notification of emergency response agencies and residents.

EMERGENCY PROCEDURES FOR AN UNCONTROLLABLE RELEASE OF H2S

1) All personnel will don the self-contained breathing apparatus.

2) Remove all personnel to the "safe area" (always use the "buddy system")

3) Contact company personnel if not on location.

4) Set in motion the steps to protect and or remove the general public to an upwind "safe area". Maintain strict security & safety procedures while dealing with the source.

5) No entry to any unauthorized personnel.

6) Notify the appropriate agencies: City Police-City street(s)
State Police-State Rd,
County Sheriff-County Rd.
(will assist in general public evacuation/safety while maintaining roadblocks)

7) Call the NMOCD

If at this time the supervising person determines the release of H2S cannot be contained to the site location and the general public is in harms way he will take necessary steps to contact the following:

EMERGENCY CALL LIST: (Start and continue until ONE of these people have been reached)

	OFFICE	MOBILE	HOME
Read & Stevens, Inc.	575-622-3770		
David Luna	575-622-3770 x 213	575-626-9395	575-625-0666
Bud Thorp	575-390-4676	575-691-8520	575-396-7282
John Maxey	575-622-3770 x224	575-626-7602	575-625-1354
Will Palmer	575-396-5391	575-390-2424	575-396-7560

EMERGENCY RESPONSE NUMBERS: Eddy County, New Mexico

State Police	575-748-9718
Eddy County Sheriff	575-887-7551
Emergency Medical Service (Ambulance)	911 or 575-746-2701
Eddy County Emergency Management (Joel Arnwine)	575-887-9511
State Emergency Response Center (SERC)	575-476-9620
Artesia Police Department	575-746-5000
Artesia Fire Department	575-746-5000
Carlsbad Police Department	575-885-2111
Carlsbad Fire Department	575-885-3125
Loco Hills Fire Department	575-677-2349
(NMOCD) New Mexico Oil Conservation Division,	
District I (Lea, Roosevelt, Chaves, Curry)	575-393-6161
District II (Eddy, Chaves)	575-748-1283
American Safety	575-746-1096
Indian Fire & Safety	575-746-4660 or 800-530-8693
Callaway Safety	575-746-2847
BJ Services	575-746-3569

PROTECTION OF THE GENERAL PUBLIC/ROE:

In the event greater than 100 ppm H2S is present, the ROE (Radius Of Exposure) calculations will be done to determine if the following is warranted:

- 100 ppm at any public area (any place not associated with this site)
- 500 ppm at any public road (any road which the general public may travel)
- 100 ppm radius of 3000' will be assumed if there is insufficient data to do the calculations, and there is a reasonable expectation that H2S could be present in concentrations greater than 100 ppm in the gas mixture.

Calculation for the 100 ppm ROE:

$X = [(1.589)\ (\text{concentration})\ (Q)]^{(0.6258)}$

Calculation for the 500 ppm ROE:

$X = [(0.4546)\ (\text{concentration})\ (Q)]^{(.06258)}$

EXAMPLE: If a well/facility has been determined to have 150 ppm H2S in the gas mixture and the well/facility is producing at a gas rate of 100 MCFPD then:

100 PPM $X=[(1.589)(150/1{,}000{,}000)(100{,}000)]^{0.6258}$
$X= 7'$

500 PPM $X=[(.4546)(150/1{,}000{,}000)(100{,}000)]^{0.6258}$
$X= 3'$

(These calculations will be forwarded to the appropriate District NMOCD office when applicable)

PUBLIC EVACUATION PLAN:
(When the supervisor has determined that the General Public will be involved, the following plan will be implemented)

1) Notification of the emergency response agencies of the hazardous condition and implement evacuation procedures.

2) A trained person in H2S safety, shall monitor with detection equipment the H2S concentration, wind and area of exposure (ROE). This person will determine the outer perimeter of the hazardous area. The extent of the evacuation area will be determined from the data being collected. Monitoring shall continue until the situation has been resolved. **(All monitoring equipment shall be UL approved, for use in class I groups A,B,C, & D, Division I, hazardous locations. All monitors will have a minimum capability of measuring H2S values.)**

3) Law enforcement shall be notified to set up necessary barriers and maintain such for the duration of the situation as well as aid in the evacuation procedure.

4) The company supervising personnel shall stay in communications with all agencies through out the duration of the situation and inform such agencies when the situation has been contained and the effected area(s) is safe to enter.

PROCEDURE FOR IGNITING AN UNCONTROLABLE CONDITION:
The decision to ignite a well should be a last resort and one if not both of the following pertain.

1) Human life and/or property are in danger.

2) There is no hope of bringing the situation under control with the prevailing conditions at the site.

INSTRUCTIONS FOR IGNITION:

1) Two people are required. They must be equipped with positive pressure; self contained breathing apparatus and a "D" –ring style, full body, OSHA approved safety harness. Non-flammable rope will be attached.

2) One of the people will be a qualified safety person who will test the atmosphere for H2S, Oxygen, & LFL. The other person will be the company supervisor; he is responsible for igniting the well.

3) Ignite up-wind from a distance no closer than necessary. Make sure that where you ignite from has the maximum escape avenue available. A 25mm flare gun shall be used, with a ±500' range to ignite the gas.

4) Prior to ignition, make a final check for combustible gases.

5) Following ignition, continue with the emergency actions & procedures as before.

REQUIRED EMERGENCY EQUIPMENT:

1) Breathing Apparatus:

- Rescue Packs (SCBA) – 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
- Work/Escape Packs – 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
- Emergency Escape Packs – 4 packs shall be stored in the doghouse for emergency evacuation.

2) Signage & Flagging:

- One Color Code Condition Sign will be placed at the entrance to the site reflecting the possible conditions at the site.
- A Colored Condition flag will be on display, reflecting the condition at the site at that time.

3) Briefing Area: Two, perpendicular areas will be designated by signs and readily accessible.

4) Wind Socks: Two windsocks will be placed in strategic locations, visible from all angles.

5) H2S Detectors and Alarm: The stationary detector with three (3) sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 15 ppm. Calibrate a minimum of every 30 days or as needed. The 3 sensors will be placed in the following places: (Gas sample tubes will be stored in the safety trailer)

- Rig Floor
- Bell Nipple
- End of Flow line or where well bore fluid are being discharged.

6) Auxiliary Rescue Equipment:

- Stretcher
- Two OSHA full body harness
- 100' of 5/8" OSHA approved rope
- 1 – 20# Class ABC fire extinguisher
- Communication via cell phones on location and vehicles on location.

USING SELF-CONTAINED BREATHING AIR EQUIPMENT (SCBA):

SCBA should be worn when any of the following are performed:

- Working near the top or on top of a tank.
- Disconnecting any line where H2S can reasonably be expected.
- Sampling air in the area to determine if toxic concentrations of H2S exist.
- Working in areas where over 10 ppm on H2S has been detected.
- At any time there is a doubt as the level of H2S in the area.

All personnel shall be trained in the use of SCBA prior to working in a potentially hazardous location.

Facial hair and standard eyeglasses are not allowed with SCBA.

Contact lenses are never allowed with SCBA.

Air quality shall continuously be checked during the entire operation.

After each use, the SCBA unit shall be cleaned, disinfected, serviced and inspected.

All SCBA shall be inspected monthly.

RESCUE & FIRST AID FOR VICTIMS OF HYDROGEN SULFIDE (H2S) POISONING

Do not panic.

Remain calm & think.

Get on the breathing apparatus.

Remove the victim to the safe breathing area as quickly as possible. Upwind an uphill from source of cross wind to achieve upwind.

Notify emergency response personnel.

Provide artificial respiration and/or CPR, as necessary.

Remove all contaminated clothing to avoid further exposure.

A minimum of two (2) personnel on location shall be trained in CPR and First Aid.

H2S TOXIC EFFECTS:

H2S is extremely toxic. The acceptable ceiling for eight hours of exposure is 10 ppm, which is .001% by volume. H2S is approximately 20% heavier than air (Sp.Gr=1.19 / Air=1) and colorless. It forms an explosive mixture with air between 4.3% and 46.0%. By volume hydrogen sulfide (H2S) is almost as toxic as hydrogen cyanide and is 5-6 times more toxic than carbon monoxide.

Various Gases

Common Name	Chemical Abbrev.	Sp. Gr.	Threshold Limits	Hazardous Limits	Lethal Concentration
Hydrogen Sulfide	H2S	1.19	10 ppm 15 ppm	100 ppm/hr	600 ppm
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/hr	300 ppm
Sulfur Dioxide	SO2	2.21	2 ppm	N/A	1000 ppm
Chlorine	CL2	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	CO2	1.52	5000 ppm	5%	10%
Methane	CH4	0.55	90,000	Combustible @ 5%	N/A

1. Threshold limit – Concentrations at which it is believed that all workers may be repeatedly exposed, day after day without adverse effects.
2. Hazardous limit – Concentration that may cause death.
3. Lethal concentration – Concentration that will cause death with short-term exposure.
4. Threshold limit – 10 ppm – NIOSH guide to chemical hazards.
5. Short-term threshold limit.

PHYSICAL EFFECTS OF HYDROGEN SULFIDE:

CONCENTRATIONS		PHYSICAL EFFECTS
.001%	10 ppm	Obvious and unpleasant odor. Safe for 8 hr. exposure
.005%	50 ppm	Can cause some flu-like symptoms and can cause pneumonia.
.01%	100 ppm	Kills the sense of smell in 3-15 minutes. May irritate eyes and throat.
.02%	200 ppm	Kills the sense of smell rapidly. Severely irritates eyes and throat. Severe flu-like symptoms after 4 or more hours. May cause lung damage and/or death.
.06%	600 ppm	Loss of consciousness quickly, death will result if not rescued promptly.

SURFACE USE PLAN OF OPERATIONS

READ & STEVENS, INC.
Deer Track 14 Federal 1
Section 14, T18S-R31E
660' FSL & 1980' FWL
Eddy County, New Mexico
Lease No. NM 28096
(Re-Entry Well)

This plan is submitted with the Application for Permit to Drill the above described well. The purpose of the plan is to describe the location of the proposed well, the proposed construction activities and operations plan to be following in rehabilitating the surface and environmental effects associated with the operations.

1. EXISTING ROADS:

A. Exhibit "B" is a portion of a BLM map showing the location of the proposed well as staked. The well site location is 10 air miles SE of Loco Hills, NM. Traveling east of Loco Hills on U.S. Hwy 82 there will be about 5 miles of existing paved road. And traveling South on CR 222 (Shugart Rd) there will be about 4 miles of existing paved road. Traveling southeast on CR 249 (Westall Rd) there will be about 2.3 miles of existing maintained county road. East on existing gravel/caliche oil field roads for 1.2 miles. Left 1100 ft on existing gravel/caliche oil field road (located on lease) to location.

B. Directions: From Loco Hills go east on Hwy 82 for 5 miles. South on CR 222 (Shugart Rd) 4 miles. East on CR 249 (Westall Rd) for 2.2 miles. Left (east) 1.2 miles. Left (NW) to location. See Map.

2. PLANNED ACCESS ROAD:

A. Length and Width: The access road will follow the reclaimed road in exhibit "A". This road is 3500' long and 14' wide (as per the Gold Book).

B. Construction: The construction will use the Crown & Ditch method. 6" of top soil will be pushed off to the side. The ditch will use a 3:1 ratio and the road will have a 2% grade from ground level up to the middle (crown) of the road. An example (from pg 20 of Gold Book) is attached (exhibit K).

C. Turnouts: None required.

D. Culverts: None.

E. Cuts and Fills: None required.

F. Gates, Cattle guards: None will be required.

G. Off lease right of way: 7200' of off lease right of way will be obtained from the Carlsbad BLM office.

3. LOCATION OF EXISTING WELLS:

A. Existing wells within a 1 mile radius are shown on Exhibit "C".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

A. Read & Stevens, Inc. has no production facilities on the lease at this time.

B. If the well proves to be commercial, the necessary production facilities, gas separation-process equipment and tank battery, if required, will be installed on the drilling pad per exhibit "H".

5. LOCATION AND TYPE OF WATER SUPPLY:

A. It is planned to drill the proposed well with brine water that will be obtained from private or commercial sources and will be transported over the existing and proposed access roads.

6. SOURCE OF CONSTRUCTION MATERIALS:

A. Caliche for surfacing the access road and well site pad will be obtained from the current location. It will come from outside of the wellpad in exhibit "D". No caliche will be pulled from existing reserve pits (one to the East and one to the West). No other surface materials will be disturbed except those necessary for actual grading and leveling of the drill site and access road. If more caliche is needed then it will come from an approved BLM sight.

7. METHODS OF HANDLING WASTE DISPOSAL:

A. Drill cutting will be disposed of as outlined in the C-144 EZ (attached).

B. Drilling fluids will be disposed of as outline in the C-144 EZ (attached).

C. All pits will be above ground.

D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or a separate disposal application will be submitted to the BLM for approval.

E. Oil produced during operations will be stored in tanks until sold

F. Current laws and regulations pertaining to the disposal of human waste will be complied with.

G. Trash, waste paper, garbage and junk will be contained in trash bins to prevent scattering by the wind and will be removed for deposit in an approved sanitary landfill within 30 days after finishing drilling/or completion operations.

8. ANCILLARY FACILITIES:

A. None required.

9. WELL SITE LAYOUT:

A. Exhibit "D" shows the relative location and dimensions of the well pad, reserve tanks, closed loop, and major rig components.

B. Well Site dimensions: 150' X 150'

C. Cut & Fill: N/A

D. The surface will be re-topped with minimum of compacted caliche.

10. PLANS FOR RESTORATION OF THE SURFACE:

A. After completion of drilling and/or completion operations, all equipment and caliche not required for operations (Exhibit H) will be removed. That same area not used for operations will have the caliche pulled up, other than the 2 existing reserve pits, and removed from site. The area that had caliche removed will then be contoured and seeded to match the surroundings.

B. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible.

11. OTHER INFORMATION:

A. Topography:
B. Soil:
C. Ponds and Streams: None in area.
D. Residences and Other Structures: None in the immediate vicinity.
E. Land Use: Cattle grazing.
F. Surface Ownership: The proposed well site and proposed access road is on Federal surface and minerals.

OPERATOR CERTIFICATION

READ & STEVENS, INC.
Deer Track 14 Federal 1
Section 14, T18S-R31E
660' FSL & 1980' FWL
Eddy County, New Mexico
Lease No. NM 28096
(Re-Entry Well)

I hereby certify that I, or someone under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are , to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

DATE:

David Luna
cn=David Luna, o=Read & Stevens, Inc., ou, email=dluna@read-stevens.com, c=US
2010.03.08 20:35:39 -07'00'

David Luna
Operations Engineer
400 Penn Plaza, Suite 1000
Roswell, NM 88201
575-622-3770 ext 213
dluna@read-stevens.com
Read & Stevens, Inc.

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Read & Stevens
LEASE NO.:	NM28096
WELL NAME & NO.:	1-Deer Track 14 Federal
SURFACE HOLE FOOTAGE:	0660' FSL & 1980' FWL
BOTTOM HOLE FOOTAGE	Same
LOCATION:	Section 14, T. 18 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

Road Maintenance/Improvement:
The entire length of the access road, including existing roads, will be maintained with a 14 driving surface, and areas that exceed the driving surface width will be reclaimed by removing caliche, ripping and reseeding that area along the road.

Abandoned Well Marker:
The abandoned well marker located about 100-150 feet northeast of the well being reentered will need to be ground-leveled before operations begin to provide a safe working environment.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall stockpile the topsoil of the new access road in a low profile manner (not higher than 2 feet) in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 6 inches in depth on the reclaimed road. The topsoil will be used for interim and final reclamation.

There is no measurable soil on this well pad to stockpile. No topsoil stockpile is required for the well pad.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call theCarlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

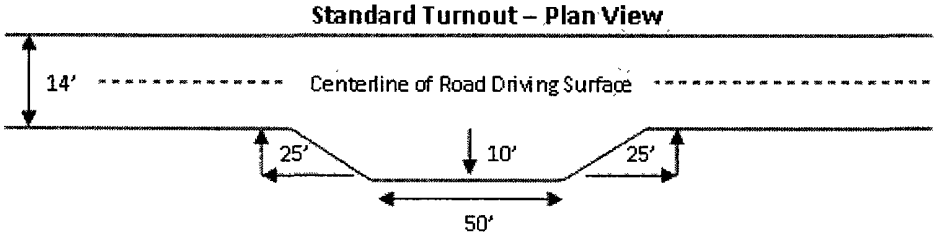
Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

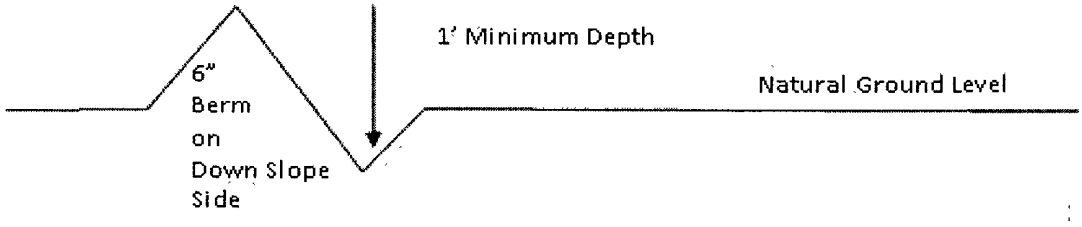
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Culvert Installations
Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards
An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

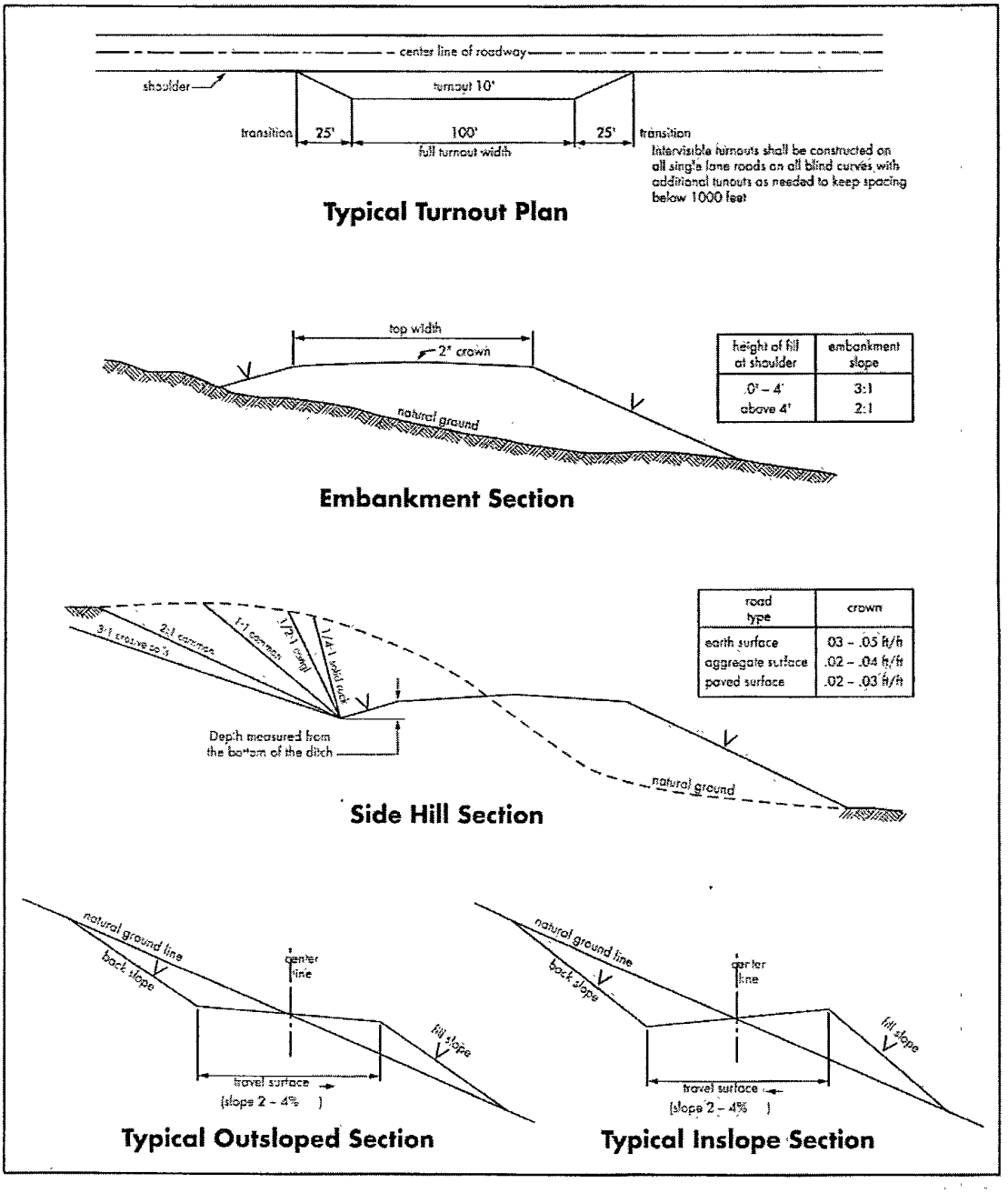
A gate shall be constructed and fastened securely to H-braces.

Fence Requirement
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

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 4 hours in advance for a representative to witness:

a. BOPE tests
b. Setting and Cementing the production casing strings
c. CIT test

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

1. **It is recommended that H2S monitoring equipment be on site because H2S has been reported from multiple wells in the area.**

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 – Re-entry

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

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 for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

1. The 13-3/8" surface casing is set at 423 feet with cement circulated to surface.

2. The 8-5/8" intermediate casing is set at 2,397 feet with cement circulated to surface.

A CIT is to be performed on the intermediate casing per Onshore Oil and Gas Order 2.III.B.1.h prior to drilling out the intermediate shoe. Test pressure to be 500 psi held for 30 minutes. Submit a Subsequent Sundry with original chart.

3. The 5-1/2" Production casing is set at 9,340 feet with top of cement at 1900 feet. During plugging the casing was cut and pulled at 1,520 feet.

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

   ☒ Cement to come to 800 feet. Operator shall verify top of cement when the cement bond log is run during completion operations.

A CIT is to be performed on the production casing per Onshore Oil and Gas Order 2.III.B.1.h after production string is tied back and cemented. Test pressure to be 1,000 psi.

5. 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.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

3. The appropriate BLM office shall be notified a minimum of 4 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.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

CRW 042010

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

IX. 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.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

*Note: All areas outside of the well dimensions specified in the production facility layout will be reclaimed during interim reclamation.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants 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.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

*Note: The entire well site, including existing reserve pits need to be rehabilitated in accordance with the Authorized Officer at the time of reclamation.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture for LPC Sand/Shinnery 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 authorized 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	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A
**Four-winged Saltbush	5lbs/A

* This can be used around well pads and other areas where caliche cannot be removed.

*Pounds of pure live seed:

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