AT507-305

OCD-HOBBS

Form 3160-3
(April 2004)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. ~~NMNM-070926X~~ NM-12612

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No. (30296) NMNM 70926X
Cooper Jal Unit

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

8. Lease Name and Well No.
Cooper Jal Unit #503

2. Name of Operator
Torch Energy Services, Inc. (241401)

9. API Well No.
30-025-38330

3a. Address ~~2600 W. I-20, Odessa, Texas 79763~~ 2/12/07
1221 LAMAR STE 1175
HOUSTON TX 77010 RA PUNSO

3b. Phone No. *(include area code)*
432 580 8500

10. Field and Pool, or Exploratory
Jalmat Langlie Mattix

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface **1,332' FSL & 1,207' FWL**
At proposed prod. zone Unit L

11. Sec., T. R. M. or Blk. and Survey or Area
Section 18, T24S, R37E

14. Distance in miles and direction from nearest town or post office*
8 miles Northwest of Jal, NM

12. County or Parish
Lea

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	17. Spacing Unit dedicated to this well
1,207' / **1,207'**	**2,588.560**	**40**

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. on file
1,064	**3,730'**	**NMB-000391**

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3,305'	**02/15/2007**	**2 Weeks**

Received
Hobbs
JAN 30 2007

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
Don C. Deck	**Don C. Deck**	**01/03/2007**

Title
Agent for Torch Energy Services, Inc.

Approved by *(Signature)*	Name *(Printed Typed)*	Date
/s/ James Stovall	/s/ James Stovall	FEB 12 2007

Title	Office
ACTING FIELD MANAGER	CARLSBAD FIELD OFFICE

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

APPROVAL FOR 1 Y

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

(Instructions on page 2)

CAPITAN CONTROLLED WATER BASIN

SEE ATTACHED FOR
CONDITIONS OF APPROVAL
APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

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

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

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

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

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Drive
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease–4 copies
Fee Lease–3 copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-025-38330		Jalmat; Langlie Mattix

4 Property Code	5 Property Name	6 Well Number
302966	Cooper Jal Unit	503

7 OGRID No.	8 Operator Name	9 Elevation
~~193065~~ 241401	TORCH ENERGY SERVICES, INC.	3305'

10 Surface Location

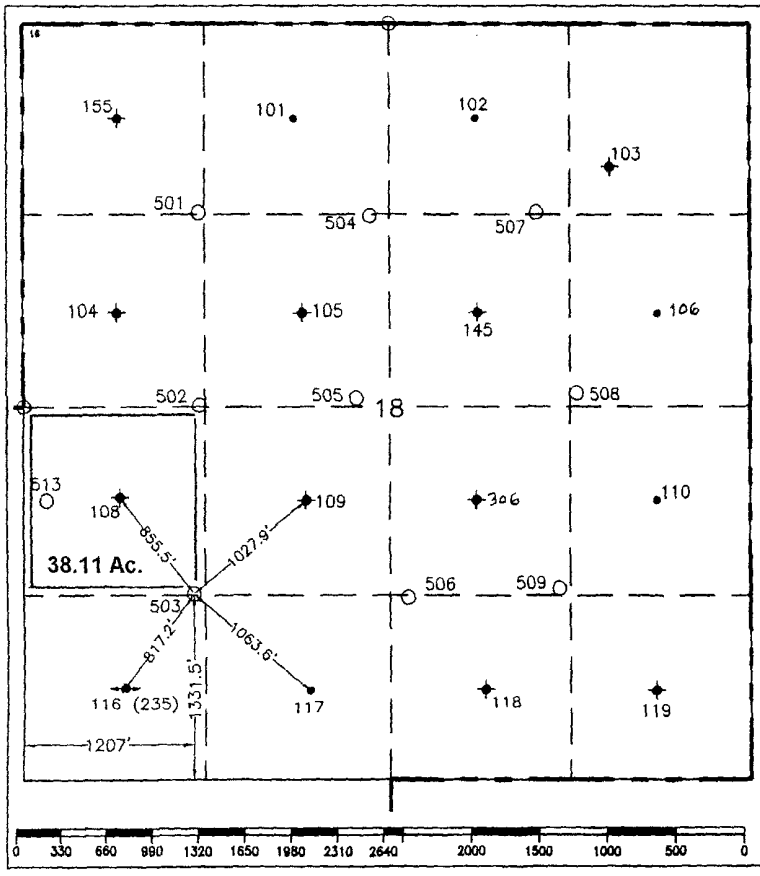
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	7 County
L	18	24-S	37-E		1331.5'	South	1207'	West	Lea

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	7 County

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
38.11			

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



17 OPERATOR CERTIFICATION

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

Jim Kidd 10/30/06
Signature Date

Jim Kidd
Printed Name

18 SURVEYOR CERTIFICATION

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

September 19 & 21, 2006
Date of Survey

Signature & Seal of Professional Surveyor:

Certificate No.
7254

o = Staked Location • = Producing Well = Injection Well = Water Supply Well = Plugged & Abandon Well
◎ = Found Section Corner, 2 or 3" Iron Pipe & GLO B.C. o = Found /4 Section Corner, 1" Iron Pipe & GLO B.C.

ADDITIONAL INFORMATION ON THE LOCATION

State Plane Coordinates	
Northing 443340.21	Easting 889865.03
Latitude 32°12'49.665"	Longitude 103°12'23.099"

Zone	North American Datum	Combined Grid Factor	Coordinate File
East	1983/86	0.99988900	Coop_Jal.Crd

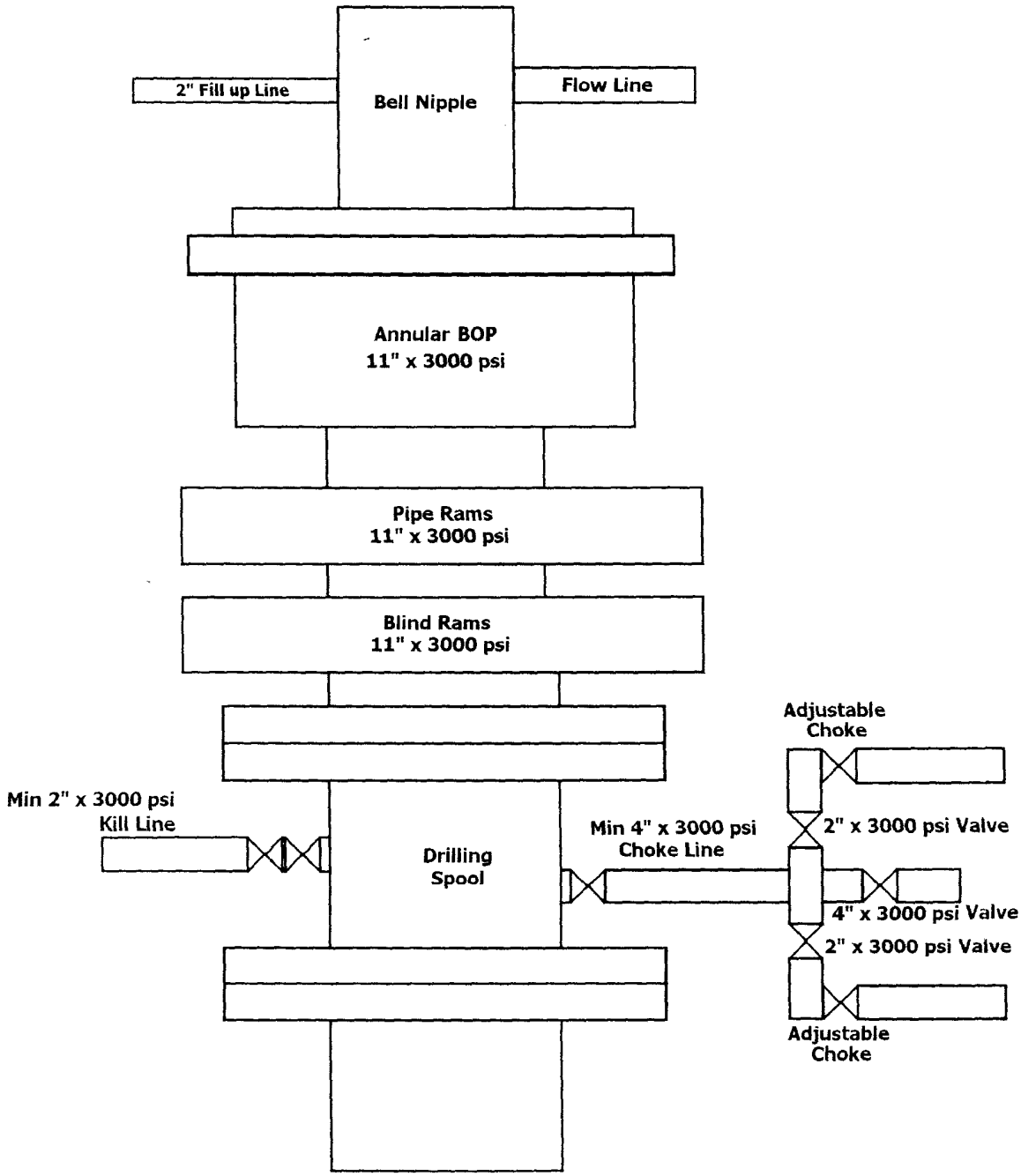
Drawing File	Field Book
Coop_Jal.Dwg	LEA #24, Pg. 3

TORCH ENERGY SERVICES, INC.

BOP Schematic for 8-3/4" or 7-7/8" Hole

Exhibit #2

Lea County, NM



Torch Energy Services, Inc.
Cooper Jal Unit No. 503
1,332' FSL & 1,207" FWL, Sec. 18, T24S, R37E
Lea County, New Mexico
Exhibit "E"

DRILLING PLAN FOR THE

COOPER JAL UNIT #503

1332' FSL & 1207' FWL
T-24-S, R-37-E, SEC-18
32º 12' 49.665" N; 103º 12' 23.099" W
G.L. Elevation 3305'
Projected TD 3,730'
API# 30-025-xxxxx

Lea County, New Mexico

Torch Energy Services, Inc.
Odessa, TX
October – 2006

Torch Energy Services, Inc.
Cooper Jal Unit No. 503
Lea County, New Mexico

CASING & CEMENT PROGRAM

J-55

SURFACE CASING

12-1/4" hole to 400' – set 8-5/8", 24 #/ft casing.

Cement with 250 sacks Class C with 2% $CaCl_2$. Circulate to surface.

The 250 sack volume includes 100% excess cement.

J-55

PRODUCTION CASING

7-7/8" hole to 3,730' – set 5-1/2", 15.5 #/ft casing.

Pump 25 bbl (1,050 gal) mud flush ahead of the cement.

Cement with lead in of 700 sacks 35/65 POZ Class "H" with 5% Salt, 6% Gel, 1/4 lb/sk Flocele (12.8ppg, 1.94CF/sk) and tail in with 300 sacks 50/50 POZ Class "H" with 2% Gel, 5% Salt, 1/4 lb/sk Flocele (14.2ppg, 1.35 CF/sk). Raise cement to above 400' (circulate to surface if possible). The 1,000 sack volume includes 100% excess cement.

ALTERNATE: Cement with 1,000 sacks Class "C" with 10% Salt, 0.2% FWC-2, 6#/sack Gilsonite and 0.9% FL-20. Raise cement to above 400' (circulate to surface if possible). The 1,000 sack volume includes 100% excess cement.

DRILLING PROGRAM

Torch Energy Services, Inc.
Cooper Jal Unit No. 503
Lea County, New Mexico

WELL NEEDED FOR RECOVERY OPERATIONS:

This proposed Cooper Jal Unit (CJU) well-no. 503 is being drilled to recover the reserves left in the 40 acre spacing unit occupied formerly by the plugged well CJU no.108 (as seen on the attached C-102 Survey Plat Exhibit). The CJU no.108 was plugged and abandoned on 7-27-2000. The CJU is an active waterflood and the CJU no. 503 is required to adequately recover these reserves. The CJU no. 503 is located more than 330' from any CJU boundary and is located more than 10' from any spacing unit boundary and does not require an application for an Unorthodox well location.

SURFACE DESCRIPTION:

Topography: Mildly undulating dunal plain.
Vegetative Community: Snakeweed, shinoak, yucca cactus, assorted grasses and other flora.
NRCS soil designation: Berino-Cacique association, nearly level and gently sloping, sandy soils that are deep and moderately deep to soft or indurated caliche.
Elevation: 3,305' above sea level at the drill hole.

FORMATION TOPS:

Formation	Depth	Lithology	Fluid Content
Ogallala	295'	Red Bed	FW
Rustler	1045'	Anhy, Salt	--
Salado	1455'	Anhy, Salt	--
Tansill	2760'	Anhy, Dolo	--
Yates	2910'	Sandstone, Dolo	Oil
Seven Rivers	3140'	Sandstone, Dolo	Oil
Queen	3525'	Sandstone, Dolo	Oil
T.D.	3730'	--	--

The base of the salt section is the base of the Salado at 2760'. No abnormal pressures or temperatures are anticipated to be encountered in this well. H_2S may be present in the Yates and Seven Rivers. H_2S RADIUS OF EXPOSURE: 100ppm = 3', 500ppm = 1.3', based on 50ppm H_2S and 71 MCF/D (see attached H_2S Drilling Operations Plan Exhibit. The H_2S equipment is to be operational prior to drilling out the surface casing shoe.)

PRESSURE CONTROL EQUIPMENT:

A 3000psi annular preventer and a 3000psi dual RAM type preventer will be used (see attached BOP Exhibit). Optionally a rotating head will be considered for use in lieu of the annular preventer. When using the rotating head, we will be able to achieve full closure of the well with

the dual RAM preventer. The preventer(s) will be installed after the surface casing is set. The BOP(s) will be tested each time they are installed on a casing string and at least once per month, and operated at least once each 24-hour period during drilling.

A mud logging / PVT system will not be installed on this well. We will be drilling through the reserve pit and will circulate the steel pits one hour each tower to check for gains and losses. These will be noted on the driller's log.

We do not plan to run an automatic remote controlled choke. We will have installed and tested two manual, H_2S trimmed, chokes.

CASING AND CEMENT PROGRAM:

The casing and cement programs are detailed in the attached Drilling Prognosis Exhibit and the attached Casing & Cement Program Exhibit. All casing will be new. Centralizers will be placed on both the surface casing and production casing as shown in these Exhibits.

The USGS National Water Information System website (http://waterdata.usgs.gov/nwis/gwlevels?) reports a depth to the water level below the land surface as 118.20' as of 3-1-1996 and 120.00' as of 3-5-1986 for the fresh water well located at 32° 13' 19" N latitude and 103° 11' 57" W longitude with a surface elevation of 3304.1' above sea level NGVD29. It is expected that the current depth to the water level is approximately 116.40' as of 11-1-2006. The surface casing set at 400' will cover all expected fresh water zones at this location.

MUD PROGRAM:

Depth	Type	Weight	Viscosity
0'-400'	FW Spud/Native	<9.4ppg	32-34
400'-3730'	Red Bed Native Mud	<9.4ppg	32-34
Across pay	RBNM & Starch	<9.4ppg	32-34

Bottom hole pressure at T.D. is estimated to be 6.0ppg equivalent mud weight.

LOGGING & TESTING:

Openhole logs (GR-CNL-LDT, GR-DLL-MSFL) will be run. A temperature survey or CBL will be run for top of cement determination on the production casing if cement is not circulated.

No mud logging unit will be used.

No drill stem tests will be conducted.

No cores will be taken.

Torch Energy Services, Inc.
Cooper Jal Unit No. 503
Lea County, New Mexico

DRILLING PROGRAM

0 to 400' ± MIRU rotary. Spud 12-1/4" hole with fresh water gel flocculated with Lime for a 32-34 sec/1000cc viscosity. Add paper to control seepage and for sweeps. Maintain mud weight at less than 9.4ppg to avoid differential sticking. Drill to 400' ± and clean hole sufficiently to run 8-5/8" casing. POOH. Rig up and run 8-5/8" casing utilizing a Texas pattern guide shoe on bottom and a float collar 1 jt from bottom. Thread-lock and/or strap-weld shoe, first joint and collar, and second joint. Centralize the bottom 3 joints and every 4th collar to surface. Take care to space out casing for use of screw-on wellhead. Cement as per recommendation by successful bidder (estimate 250 sacks Class "C" @ 14.8ppg). Displace plug 30' above shoe. WOC 8 hours. Cement must be circulated to surface. Chain casing before cementing.

400' ± to 3,730' Cut off casing and nipple up 3000# WP annular, blind and pipe rams. Test BOPs and valves to 1,000 psig with rig pump. Pick up 7-7/8" bit and RIH. Drill out shoe and drill ahead with existing fresh water mud. This section of the well will be drilled with **Native Red Bed Mud**. Circulate a controlled section of the reserve pit and use Lime to maintain pH between 10.0 and 11.0. Use ground paper for seepage and/or lost circulation. Mix 1 sack of of ground paper per 100' drilled for sand lenses. Maintain a 32-34 sec/1000cc native viscosity to T.D. with water additions. Add 25 bbls oil for red beds. If needed, use drilling detergent for torque and drag reduction. Prior to drilling the salt at 1,200' ±, add brinewater to avoid washouts. At 2,600'±, mud up to a fresh water gel system with weight of 9.2 – 9.4 ppg, viscosity of 45 – 55 sec/1000cc, and water loss of less than 10 cc. Prior to T.D., add 25 bbls oil and 50 sacks of yellow starch to the system for the OH logs and casing.

Condition and circulate the hole for OH logs, increasing the viscosity to between 65-70 sec/1000cc and reduce the water loss to 8-10 cc. POOH. Run OH logs as per recommendation. POOH and lay down DP and DC's. RU casing crew and run 5-1/2" casing using a Texas pattern float shoe and float collar 1 joint above shoe and a casing marker sub of 8' to 10' set at 2,500'-2,600'. Centralize the casing using centralizers on every 2nd joint in the bottom 1,500' of the well and every 4th joint in the upper 2,230' of the well. Sand blast and /or ruff coat the O.D. of the bottom 1,500' of casing. Cement the casing using a 40-60bbl mud preflush of brinewater/freshwater and Class "C" or "H" cement as per recommendation, adjusting volumes utilizing the OH caliper log. Attempt to bring cement back to above 400' (circulate if possible). WOC 8 hrs. Lift up BOP's, set slips, and nipple down BOP stack and NU WH. Jet pits and release rig. Run temperature survey or CBL to determine TOC. Release well to completion department.

Torch Energy Services, Inc.
Cooper Jal Unit No. 503
Lea County, New Mexico

DRILLING PROGNOSIS

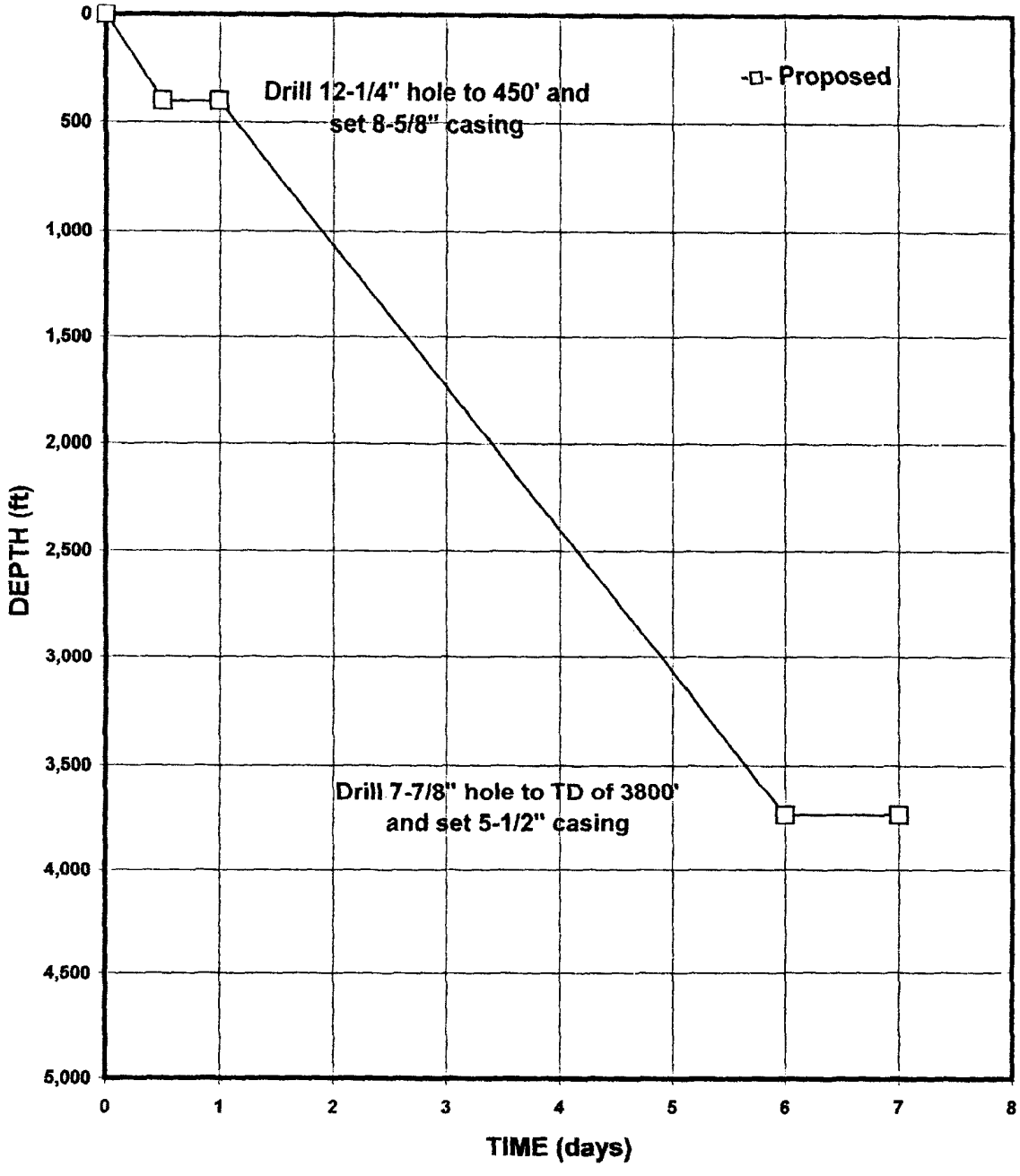
LOCATION:	1332' FSL & 1207' FWL Section 18, T-24-S, R-37-E NMPM, Lea County, New Mexico LAT-LON: 32° 12' 49.665" N - 103° 12' 23.099" W
ELEVATION:	G.L. Elevation 3,305'
PROJECTED TD:	3,730'

PRIMARY TARGETS:

FORMATION	DEPTH EXPECTED (TVD)	ANTICIPATED PRODUCTION
OGALLALA	295'	NO
RUSTLER	1,045'	NO
SALADO	1,455'	NO
TANSILL	2,760'	NO
YATES	2,910'	PAY (OIL & GAS)
SEVEN RIVERS	3,140'	PAY (OIL)
QUEEN	3,525'	PAY (OIL)
T.D.	3,730'	

SECONDARY TARGETS:	NONE
OH LOGGING PROGRAM:	GR-CNL-LDT: TD - surface casing shoe +100'. GR-DLL-MSFL: TD – surface casing shoe +100'. CBL or Temperature Survey for TOC determination.
MUD LOGGING:	None
MUD PROGRAM:	**0'– 400'** <u>SPUD MUD / NATIVE</u> - Spud well with freshwater gel flocculated with Lime for a 32-34 sec/1000cc viscosity. Mix ground paper for seepage. Mix ground paper to sweep the hole and for lost circulation. Maintain mud weight less than 9.4 ppg to avoid differential sticking problems. **400'– 3,730'** <u>RED BED NATIVE MUD</u> - Drillout with existing fluid, circulating a controlled section of the reserve pit. This section of the well will be drilled with **Native Red Bed Mud**. Mix 1 sack of of ground paper per 100' drilled for sand lenses. Maintain a 32-34 sec/1000cc native viscosity to T.D. with water additions. Add 25 bbls oil for red beds. Mix Lime for a 10.0-11.0 pH. Mix ground paper for seepage and/or lost circulation. Prior to drilling the salt at 1,200' ±, add brinewater to avoid washout. Prior to T.D. , add 25 bbls oil and 50 sacks of yellow starch to the mud system and condition the mud system for the OH logs and casing running/cementing.
DRILL STEM TESTING:	None
CEMENT PROGRAM:	**Surface Casing:** Circulate to surface - 250 sacks Class "C" @ 14.8ppg, centralize bottom 3 joints plus every 4th collar to surface. WOC - 8 hrs. **Production Casing:** Cement with lead in of 700 sacks 35/65 POZ Class "H" with 5% Salt, 6% Gel, 1/4 lb/sk Flocele (12.8ppg, 1.94CF/sk) and tail in with 300 sacks 50/50 POZ Class "H" with 2% Gel, 5% Salt, 1/4 lb/sk Flocele (14.2ppg, 1.35 CF/sk). Place centralizers every 2nd joint through the bottom 1,500' and every 4th joint in the top 2,230'. Raise cement to above 400' (circulate to surface if possible). The 1,000 sack volume includes 100% excess cement. **ALTERNATE: Production Casing:** Cement with 1,000 sacks Class "C" with 10% Salt, 0.2% FWC-2, 6#/sack Gilsonite and 0.9% FL-20. Place centralizers every 2nd joint through the bottom 1,500' and every 4th joint in the top 2,230'. Raise cement to above 400' (circulate to surface if possible). The 1,000 sack volume includes 100% excess cement. R
CASING PROGRAM:	**Surface Casing:** 8-5/8", 24lb/ft, H-40 or WC-50 at 400' (12-1/4" hole) **Production Casing:** 5-1/2", 15.5lb/ft, J-55 or WC-50 at 3,730' (7-7/8" hole)
CORING:	None
BOP's:	G.L. (0') to surface casing shoe (400') - No BOPs Surface casing shoe (400') to T.D. (3,730') - 3000# WP annular, blind and pipe rams.
WELLHEAD:	3000# Larkin screw-type or equivalent.

DRILLING CURVE - COOPER JAL UNIT #503



District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
March 12, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☐
Type of action: Registration of a pit or below-grade tank ☐ Closure of a pit or below-grade tank ☐

Operator: Torch Energy Services, Inc. Telephone: (432) 580 8500 e-mail address: _____

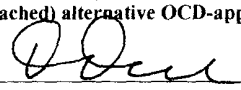
Address: 2600 W. I-20 Odessa, Texas 79763

Facility or well name: Cooper Jal Unit No. 503 API #: _____ U/L or Qtr/Qtr NW Of SW Sec 18 T24S R 37E

County: Lea Latitude N 32.1249.665 Longitude W 103.1223.099 NAD: 1927 ☐ 1983 ☑ Surface Owner Federal ☐ State ☑ Private ☐ Indian ☐

Pit	**Below-grade tank**	
Type: Drilling ☐ Production ☐ Disposal ☐ Workover ☐ Emergency ☐ Lined ☐ Unlined ☐ Liner type: Synthetic ☐ Thickness 20 mil Clay ☐ Volume 10,730 bbl	Volume: _____bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes ☐ If not, explain why not.	
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet 50 feet or more, but less than 100 feet (100 feet or more)	(20 points) (10 points) (0 points)
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes ~~No~~	(20 points) (0 points)
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet 200 feet or more, but less than 1000 feet (1000 feet or more)	(20 points) (10 points) (0 points)
	Ranking Score (Total Points)	0

If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: onsite ☐ offsite ☐ If offsite, name of facility_____. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface_____ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. **I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.**
Date: January 3, 2007
Printed Name/Title Don C. Deck, Agent Signature 

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:
Date: 3/9/07
Printed Name/Title CHRIS WILLIAMS / DIST. SUPV Signature