

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-101
Revised March 17, 1999

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Submit to appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

☐ AMENDED REPORT

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

¹ Operator Name and Address H.L. Brown Operating L.L.C. 300 West Louisiana, Midland, Texas 79702		² OGRID Number 213179
³ Property Code 36114	⁵ Property Name Fed Com "8"	³ API Number 30-015-35220
		⁶ Well No. 2

⁷ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	8	21-S	27-E		1620'	South	765'	West	Eddy

⁸ Proposed 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

⁹ Proposed Pool 1

Burton Flat Morrow (Pro gas) - 73280

¹⁰ Proposed Pool 2

Foster Draw Delaware (gas) - 76820

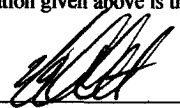
¹¹ Work Type Code N	¹² Well Type Code G	¹³ Cable/Rotary Rotary	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3229'
¹⁶ Multiple No	¹⁷ Proposed Depth 11,800	¹⁸ Formation Morrow	¹⁹ Contractor to be determined	²⁰ Spud Date ~01/15/07

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17-1/2"	13-3/8"	48#, H-40	600'	650	Circulated
12-1/4"	9-5/8"	40#, J-55	2620'	850	Circulated
8-3/4"	5-1/2"	17#, P-110	11,800'	850 / 1650	2400'
				DV at ~8000'	

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

Drill and complete well in Morrow at a projected TD of 11,800'. A BOP schematic is attached and a 10000 psi tree will be nipped up prior to perforating. A DV tool will be set at approximately 8000'. The Morrow will be completed with thru-tubing or tubing conveyed guns. Will notify NMOC in sufficient time to witness cementing the surface and intermediate casing.

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. Signature: 		OIL CONSERVATION DIVISION	
Printed name: Robert T. McNaughton		Approved by: BRYAN G. ARANT	
Title: Operations Manager/ Engineer		Title: DISTRICT II GEOLOGIST	
Date: 10-13-06		Approval Date: OCT 31 2006	Expiration Date: OCT 31 2007
Phone: 432-683-5216		Conditions of Approval: Attached <input type="checkbox"/>	

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

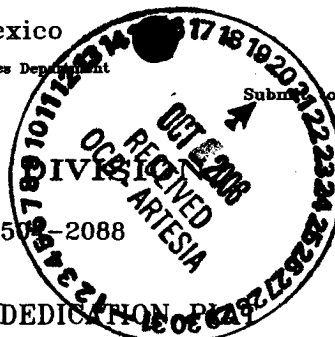
DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised March 17, 1999

OIL CONSERVATION

2040 South Pacheco
Santa Fe, New Mexico 87505-2088



Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION

API Number	Pool Code 73280	Pool Name Burton Flat Morrow (Pro Gas)
Property Code	Property Name FEDERAL "8" COM	Well Number 2
OGRID No. 213179	Operator Name H.L. BROWN OPERATING L.L.C.	Elevation 3229'

Surface Location


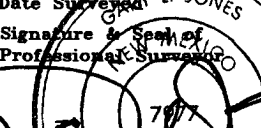
UL or lot No. L	Section 8	Township 21 S	Range 27 E	Lot Idn	Feet from the 1620	North/South line SOUTH	Feet from the 765	East/West line WEST	County EDDY
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Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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Dedicated Acres 320	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>LAT N.: 32°29'30.9" LONG W.: 104°13'05.4" (NAD-83)</p> <p>3224.9' 3236.1' 765' 3226.3' 3242.8' 1620'</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p> Signature</p> <p>Robert McNaughton Printed Name</p> <p>Operations MGR/ ENGR Title</p> <p>10-13-06 Date</p> <p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p>JUNE 01, 2006 Date Surveyed</p> <p> Signature & Seal of Professional Surveyor</p> <p>No. 7977 Certificate No.</p> <p>Basin Surveys, Inc. Jones 7977 Professional Surveyor</p> <p>BASIN SURVEYS</p>
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Submit 3 Copies To Appropriate District Office

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 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

1511

Form C-103
May 27, 2004

WELL API NO.

5. Indicate Type of Lease

STATE ☐

FED ☒

FEE ☐

6. Federal Oil & Gas Lease No.
NM - 12852

7. Lease Name or Unit Agreement Name

Federal 8 Com

Well Number 2

9. OGRID Number
213179

10. Pool name or Wildcat
Burton Flat (Morrow)

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEEN OR PLUG BACK TO A
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH
PROPOSALS.)

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

2. Name of Operator
H.L. Brown Operating L.L.C

3. Address of Operator
300 West Louisiana, Midland, Texas 79702

4. Well Location

Unit Letter: L : 1620' feet from the South line and 765' feet from the West line

Section 8 Township T-21-S Range R-27-E NMPM Eddy County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
3229' GL

Pit or Below-grade Tank Application (For pit or below-grade tank closures, a form C-144 must be attached)

Pit type Drilling Depth to Groundwater 80' Distance to nearest fresh water well 1 mile east Distance to nearest surface water 1.25 M west

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume bbls Construction Material PVC liner

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐ CHANGE PLANS ☐

PULL OR ALTER CASING ☐ MULTIPLE COMPLETION ☐

OTHER: Construct reserve pit for drilling rig ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐ P&A ☐

CASING / CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103.
For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

According to the State Land Office files, the closest water depth measurement is one mile east in Section 9, T-21-S, R-27-E, at 80'.

Site #322917104120102 - 92' total depth in the Rustler aquifer. Lake Avalon is 1-1/4 miles to the west.

Will use a single layer - 12 mil liner as per BLM and NMOCD requirements.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any 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 ☐.

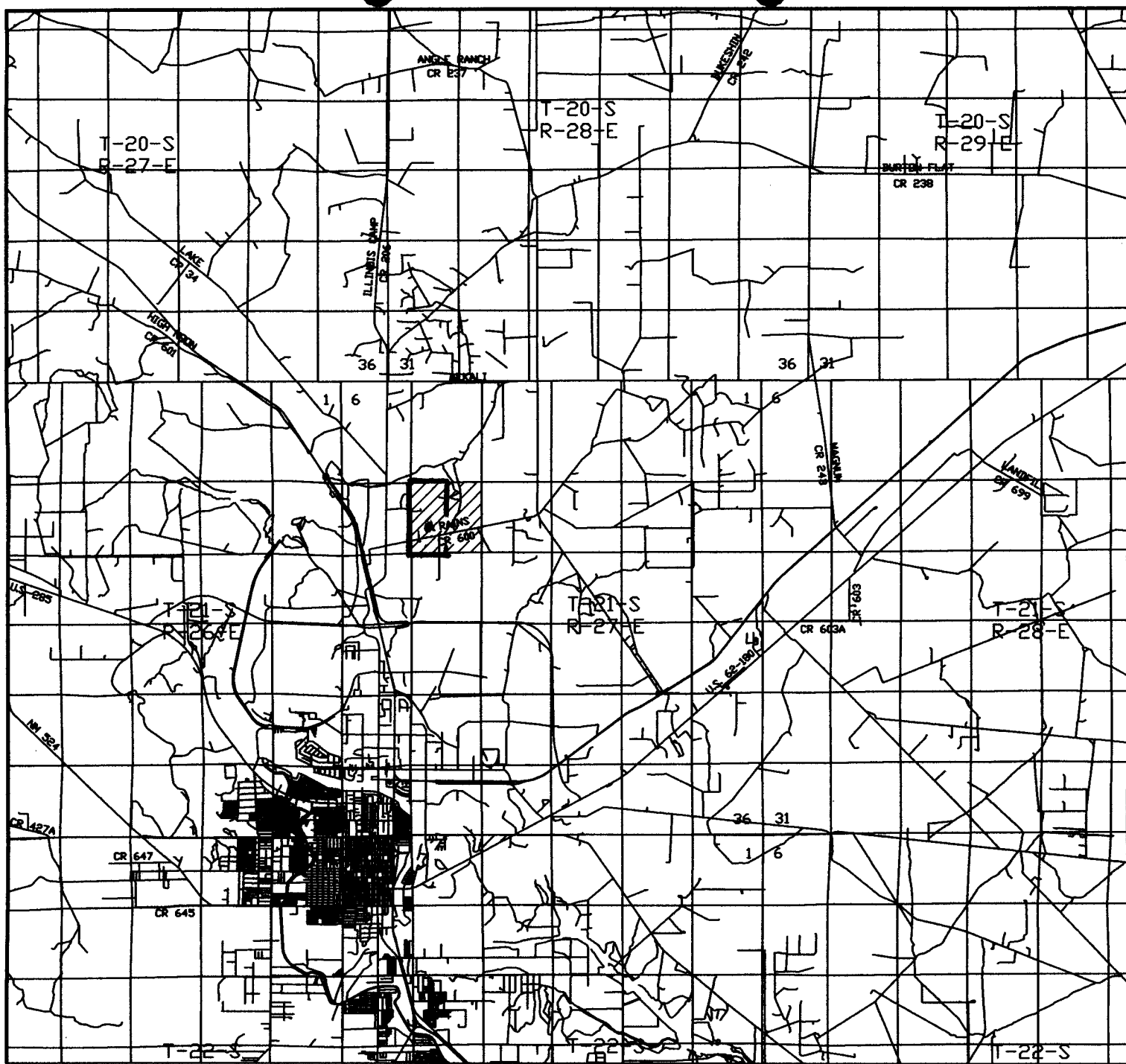
SIGNATURE [Signature] TITLE Operations Manager/ Petroleum Engineer DATE 10-13-06

Type or print name Robert McNaughton E-mail address: robertm@hlboperating.com Telephone No. 432-688-3726

(This space for State use)

APPROVED BY [Signature] TITLE District II Supervisor DATE 10/23/06

Conditions of approval, if any:



FEDERAL "8" COM #2
 Located at 1620' FSL and 765' FWL
 Section 8, Township 21 South, Range 27 East,
 N.M.P.M., EDDY County, New Mexico.

basin
surveys

focused on excellence
 in the oilfield

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

W.O. Number: JMS 6672TA

Survey Date: 06-01-2006

Scale: 1" = 2000'

Date: 06-02-2006

H.L. BROWN
 OPERATING, L.L.C.

Supplemental Drilling Data

H. L. BROWN OPERATING, L.L.C.

Federal 8 Com No. 2

1620' FSL & 765' FWL, Sec. 8, Unit L, T-21-S, R-27-E

Eddy County, New Mexico

Overview of Well:

The proposed well will be drilled to about 11,800' to test the middle and lower Morrow sand formations. 13-3/8" surface pipe will be set at 600', 9-5/8" intermediate pipe will be set at 2800' and 5-1/2" production casing will be set at 11,800'. The Morrow will be perforated and acid/ fracture stimulated.

1.) Surface Formation: Rustler

2.) Estimated Top of Geologic Markers:

Yates	580'	Canyon Lime	9325'
San Andres	2,615'	Strawn Lime	10,147'
Delaware (CRCN)	3,550'	Atoka	10,660'
Bone Spring	4,855'	Morrow	10,915'
Wolfcamp Lime	8,830'	Mississippian	11,530'

3.) Estimated Depths Water, Oil, Gas or Other Mineral Bearing Formations:

Capitan Reef	Fresh Water
Delaware	Gas and Oil
Bone Springs	Gas and Oil
Strawn	Gas and Oil (may be over-pressured)
Morrow	Gas
Other Minerals	None Anticipated

4.) Proposed Casing and Cementing Program:

Hole Size, in.	Casing Data				Depth, ft	Cement	Expected Top of Cement
	Size	Wt. #/ft	Grade	Thread			
17-1/2"	13-3/8"	48	H-40	ST&C	600'	600 sx "C" w/ 2% CaCl ₂ , + 1/4#/ sx celloflake	Surface Must circulate
12-1/4"	9-5/8"	36/40	J-55	LT&C	2600'	Lead: 1200 sx "C" Poz + 6% gel + celloflake Tail: 300 sx "C" w/ CaCl ₂	Surface Must circulate
8-3/4"	5-1/2"	17.0	P-110	LT&C	0' - 11,800'	Lead: 450 sx "H" Poz + Tail: 400 sx "H" w/ FLA	3400' ** tie into 8-5/8" casing
				DV tool	8000'	~1650 sx "C" - cement must cover Capitan	

The surface and intermediate casing string will be tested to 1000 psi. The 5 1/2" casing will be tested to 2000 psi. All casing will be new or used, inspected yellow-band or better. If hole conditions warrant it, we will run a 7", 26#, P-110 liner across the Strawn and Atoka. Cement must cover the Capitan Reef section.

5.) Pressure Control Equipment:

Pressure control equipment will include a 10000 psi WP blowout preventer stack, sour trim, with both pipe rams and blind rams. Above BOP stack will be an annular BOP, 10000 psi WP with sour trim. Below the double BOP stack will be an adapter spool, 10000 psi WP. On one side of the adapter spool will be a kill line with a check valve and a ball valve. The other side will be a choke manifold with a bleed off line. Hydraulic BOP controls will be operated daily.

6.) Circulating Medium:

Fresh Water Mud in Capitan Reef

Depth	Mud Type	Wt. lb/gal	Viscosity sec/1000cc	Filtrate cc/30min	Remarks
0' - 600'	FW-Gel	8.6 - 9.0	35-45	NC	Lost circulation common
600' - 2650'	Brine native	9.0 - 9.3	28-29	NC	Lost circulation common
2650' - 9,900'	FW to brine	8.4 - 9.9	28-30	NC	Weight up for the Bone Springs
** 10,400	SW-Gel	10.3 - 11.2	34-40	NC	Have kill mud on location for Strawn
9,900' - 11,800'	SW-Gel	10.0 - 11.5	38-40	8 - 10	Run open hole logs

No abnormal pressures are anticipated. Mud is used for borehole stability and filtrate control and will probably be needed for formation pressure control. Have a barite bin on location by 9500'.

7.) Auxiliary Equipment:

- Kelly cock: in mud line above swivel.
- Floats at bit: none planned.
- Mud system monitoring equipment: No automatic equipment planned; will use visual testing and inspection by rig and mud company personnel.

8.) Testing, Logging and Coring Program:

- Samples: Drilling samples will be caught at 10' intervals below 2800'.
- DST and Cores: none planned
- Logging: GR/CNL will be run from surface to TD and the GR/CNL/SDL and DLL/MLL will be run from TD to ~2800'.

9.) Abnormal Pressures, Temperature or Hydrogen Sulfide:

Hydrogen Sulfide is not anticipated. The Strawn at approximately 10,400' may be over pressured if porosity is encountered. The offset Devon well, Avalon 7-1, used 11.2 PPG mud to kill this zone after a blowout.

10.) Anticipated Starting Date:

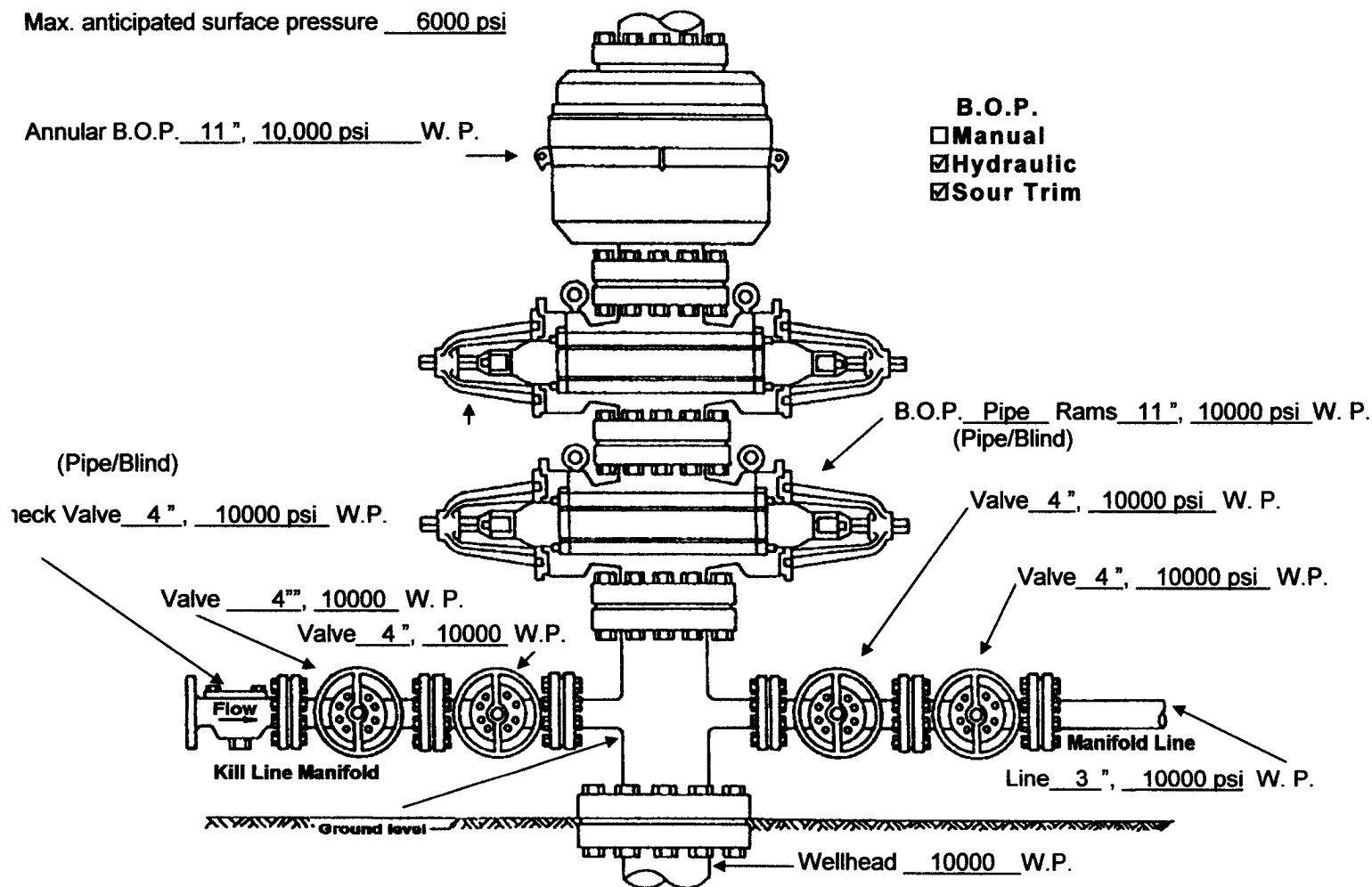
Drilling operations are expected to commence after January 15, 2007 and are expected to last 45 days. Completion operations are expected to last 12 days.

<p align="center">CHOKE MANIFOLD DIAGRAM</p> <p>Worksheet supplement for "Application for Permit to Drill or Deepen a Well"</p>	<p>Applicant H.L. Brown Operating L.L.C P.O. Box 2237, Midland Texas 79702</p>
<p>Location: 1620' FSL & 765' FWL Unit L, Section 8, T- 21-S, R- 27-E Eddy Co, NM</p>	<p>Well name and number <p align="center">Federal 8 Com No. 2</p></p>

Max. anticipated surface pressure 6000 psi

Annular B.O.P. 11", 10,000 psi W. P.

B.O.P.
☐ Manual
☒ Hydraulic
☒ Sour Trim



**TITLE PAGE/ABSTRACT/
NEGATIVE SITE REPORT**

1/03

CFO/RFO

1. BLM Report No.		2. Reviewer's Initials/Date _____ ACCEPTED () REJECTED ()		3. NMCRIS No.: 100716	
4. Type of Report: Negative (X) Positive ()					
5. Title of Report: A Class III Archaeological Survey, for H L Brown Operating, L.L.C., of the Federal "8" Com. well No.2 pad and access road.				6. Fieldwork Date(s): from 7/17/06 to	
Author(s): Jeffrey Pangburn and Dagmar Youngberg				7. Report Date: 7/17/06	
8. Consultant Name & Address: Boone Archaeological Services 2030 North Canal, Carlsbad, NM 88220 Direct Charge: Danny Boone Field Personnel Names: Jeffrey Pangburn Phone: (505) 885-1352				9. Cultural Resource Permit No.: BLM: 190-2920-06-I STATE: NM-06-157	
				10. Consultant Report No. BAS 06-06-10	
11. Customer Name: H. L. Brown Operating, L.L.C. Responsible Individual: Robert McNaughton Address: PO Box 2237, 300 W Louisiana Midland, TX 79702 Phone: (432) 683-5216				12. Customer Project No.:	
13. Land Status:	BLM	STATE	PRIVATE	OTHER	TOTAL
a. Area Surveyed (acres)	9.3 (+/-)				9.3 (+/-)
b. Area of Effect (acres)	4.19 (+/-)				4.19 (+/-)
14. a. Linear: Length; 455' (+/-) Width; 100' b. Block: 600' X 600'					
15. Location: (Maps Attached if Negative Survey) a. State: New Mexico b. County: Eddy c. BLM Office: Carlsbad Field Office d. Nearest City or Town: Carlsbad e. Legal Location: T 21S, R 27E, Sec. 8; NW 1/4 SW 1/4, SW 1/4 SW 1/4. f. Well Pad Footages: 1620' FSL; 765' FEL g. USGS 7.5 Map Name(s) and Code Number(s): CARLSBAD EAST, NM (Prov. Ed. 1985) 32104 D2					

16. Project Data:

a. Records Search: Date(s) of BLM File Review: 7/14/06 Name of Reviewer (s): Dagmar Youngberg

Date(s) of ARMS Data Review: 7/17/06 Name of Reviewer (s): Dagmar Youngberg

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

During the BLM, ARMS review it was found that LA 150948 is within one quarter mile of the current undertaking.

b. Description of Undertaking:

A class III archaeological survey was conducted on 2 July 2006 by Jeffery Pangburn field supervisor for Boone Archaeological Services. The current undertaking consists of a wellpad and associated access road. The well pad is located in the southwest quarter of the section. The wellpad was staked by the client, prior to fieldwork, with lathe and pink marking tape. The survey area measures 600' x 600' for the well pad with a impact area which is unknown but estimated to be 400' x 400'. The access road extends from the southwest portion of this well pad for approximately 455' to a paved east west trending road Rains road / CR600. The survey corridor for the road is 100' wide with a estimated work space of 50' wide centered on the flagged right of way (ROW). This location is on a old well pad(1986) the proposed access road is along the original access road. The project was flagged by the client prior to field work with orange flagging tape and lathe.

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

Topography: low hills with in a copice dune field.

Vegetation: mesquite, crosote, catclaw, broom snakeweed, yucca, and various other desert grasses and forbes

NRCS: Simona-Pajarito association: Sandy, deep soils and soils that are shallow to caliche; from wind-worked deposits

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

Transects: 1 transect along each side of the flagged centerline spaced at 15meter intervals for the access road and systematic east west transects at 15meter intervals spanning the legnth of the wellpad.

Crew Size: 1person(s)

Time in Field: 3hours

e. Artifacts Collected (?): NA

17. Cultural Resource Findings:

a. Identification and description: NA

b. Evaluation of significance of Each Resource: NA

18. Management Summary (Recommendations):

Archaeological clearance is recommended, as currently staked, for the Federal "8" Com. well No. 2 pad and access road, for H. L. Brown Operating, L.L.C.. 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

Signature

7/17/06

Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
RIGHT-OF-WAY GRANT/TEMPORARY USE PERMIT
SERIAL NUMBER: NM-116428
Fed. 8 #2

1. A right-of-way is hereby granted pursuant to Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185).

2. Nature of Interest:

a. By this instrument, the holder:

H.L. Brown Operating, L.L.C.
P. O. Box 2237
Midland TX 79702

receives a right to construct, operate, maintain, and terminate an existing access road to be upgraded and an Oil and Gas Related Site for a well pad, for the Fed. 8 #2 well on Federal lands described as follows:

T. 21 S., R. 27 E., NMPM
Sec. 8: W $\frac{1}{2}$ SW $\frac{1}{4}$.

The lands described above contain a total length of 0.086 miles.

- b. The right-of-way or permit area granted herein for the road is 20 feet wide, 455.0 feet long and contains 0.209 acres, more or less. The Oil and Gas Related Site will be 300 feet X 300 feet and contains 2.006 acres, more or less.
- c. This instrument shall terminate on December 31, 2035, unless, prior thereto, it is relinquished, abandoned, terminated, or modified pursuant to the terms and conditions of this instrument or of any applicable Federal law or regulation.
- d. This instrument may be renewed. If renewed, the right-of-way or permit shall be subject to the regulations existing at the time of renewal and any other terms and conditions that the authorized officer deems necessary to protect the public interest.
- e. Notwithstanding the expiration of this instrument or any renewal thereof, early relinquishment, abandonment, or termination, the provisions of this instrument, to the extent applicable, shall continue in effect and shall be binding on the holder, its successors, or assigns, until they have fully satisfied the obligations and/or liabilities accruing herein before or on account of the expiration, or prior termination, of the grant.

3. Rental:

For and in consideration of the rights granted, the holder agrees to pay the Bureau of Land Management fair market value rental as determined by the authorized officer unless specifically exempted from such payment by regulation. Provided, however, that the rental may be adjusted by the authorized officer, whenever necessary, to reflect changes in the fair market rental value as determined by the application of sound business management principles, and so far as practicable and feasible, in accordance with comparable commercial practices.

4. Terms and Conditions:


- a. This grant or permit is issued subject to the holder's compliance with all applicable regulations contained in Title 43 Code of Federal Regulations part 2800.
- b. Upon grant termination by the authorized officer, all improvements shall be removed from the public lands within 90 days, or otherwise disposed of as provided in paragraph (4)(d) or as directed by the authorized officer.
- c. The stipulations, plans, maps, or designs set forth in Exhibits A, A-1, B-1, C, dated June 22, 2006, attached hereto, are incorporated into and made a part of this grant instrument as fully and effectively as if they were set forth herein in their entirety.
- d. Failure of the holder to comply with applicable law or any provision of this right-of-way grant or permit shall constitute grounds for suspension or termination thereof.
- e. The holder shall perform all operations in a good and workmanlike manner so as to ensure protection of the environment and the health and safety of the public.

IN WITNESS WHEREOF, The undersigned agrees to the terms and conditions of this right-of-way grant or permit.


(Signature of Holder)

H.L. Brown, Jr., President of
(Title) H.L. Brown Operating LLC

9-7-06
(Date)


(Signature of Authorized Officer)

Tony J. Herrell, Field Manager
(Title)

(Effective Date of Grant)



Newpark Drilling Fluids, LLC



DRILLING FLUIDS PROGRAM

PREPARED FOR:

Federal 8 Com #2

***Section 8, T-21-S, R-27-E
Eddy County, New Mexico***

SUBMITTED TO:

Mr. Robert McNaughton

***H.L. Brown Operating, LLC
300 W. Louisiana
Midland, Texas 79702***

PREPARED BY:

Ken Anthony



Newpark Drilling Fluids, LLC

H.L. Brown Operating, LLC

Federal 8 Com #2

Section 8, T-21-S, R-27-E

Eddy County, New Mexico

Anticipated Formation Tops

Yates	680'
San Andres	2,610'
Bone Spring	4,825'
Wolfcamp	8,800'
Canyon	9,295'
Strawn	10,145'
Atoka	10,630'
Morrow	10,885'
Mississippian	11,500'
Total Depth	11,800'



Newpark Drilling Fluids, LLC

H.L. Brown Operating, LLC

Federal 8 Com #2

Section 8, T-21-S, R-27-E

Eddy County, New Mexico

Mud Program Summary

<u>Depth</u>	<u>Hole Size</u>	<u>Casing Size</u>	<u>Mud Wt.</u>	<u>Viscosity</u>	<u>Fluid Loss</u>	<u>pH</u>
0' – 600'	17-1/2"	13-3/8"	8.6-9.0	35-45	N/C	N/C
600' – 2,600'	12-1/4"	9-5/8"	8.4-8.5	28-29	N/C	9-10
2,600' - 9,900'	8-3/4"	-	8.4-9.3	28-29	N/C	9-10
9,900' – 11,800'	8-3/4"	5-1/2"	9.3-10.0	34-40	10-8	9-10

Potential Problems

Surface Interval 0 – 600'

- Severe seepage.
- Poorly consolidated formations, may require higher than normal viscosity.

Intermediate Interval 600' – 2,600'

- Severe seepage.
- Deviation.

1st Open Hole Interval 2,600' – 9,900'

- Moderate seepage.
- Deviation.

Production Hole Interval 9,900' – 11,800'

- Severe seepage (Penn).
- Water sensitive sands.
- Abnormal pressure development (Strawn and Atoka).



Newpark Drilling Fluids, LLC

H.L. Brown Operating, LLC

Federal 8 Com #2

Section 8, T-21-S, R-27-E

Eddy County, New Mexico

Surface Interval

Interval: 0 – 600'
Hole Size: 17-1/2"
Casing Size: 13-3/8"
Total Days: 2
Mud Type: New Gel/Lime
Properties:
 Weight: 8.6 – 9.0 ppg
 Viscosity: 35 – 45 sec/1000cc
 Filtrate: N/C
 pH: N/C

Interval Discussion:

Spud with a conventional **NewGel** "spud mud". Use **NewGel**, **Soda Ash** and native solids to maintain a sufficient viscosity to keep the hole clean. Mix **Paper** to control seepage loss. Run fresh water at flowline for dilution and volume. Sweep hole with 5-lbs of **Super Sweep** every 150 feet drilled. Severe losses may require dry drilling to casing point.

At total depth of interval, mix in pre-mix pit, 100 barrels of fresh water, **NewGel** for a viscosity of 100 sec/1000cc, add 0.25 ppb of **Super Sweep**. Pump this pill prior to trip to run surface casing.

**Matador's – Federal 12 Com #2 in section 12, T21S, R26E lost returns @ 100'.*

Materials Consumption :

75	sx	New Gel
10	sx	Paper
5	sx	Lime
1	bx	Super Sweep



Newpark Drilling Fluids, LLC

H.L. Brown Operating, LLC

Federal 8 Com #2

Section 8, T-21-S, R-27-E

Eddy County, New Mexico

Intermediate Interval

Interval: 600' – 2,600'
Hole Size: 12-1/4"
Casing Size: 9-5/8"
Total Days: 4
Mud Type: Fresh Water/Native
Properties:
 Weight: 8.4 – 8.5 ppg
 Viscosity: 28-29 sec/1000cc
 Filtrate: N/C
 pH: 9-10

Interval Discussion:

Drill out below Surface Casing with 8.4-ppg fresh water. Circulate through a controlled portion of the reserve pit for maximum gravitational solids removal. Use sweeps of **Paper** to control seepage loss. Mix **Lime** for pH control. Mix one gallon of **New-55** at flowline for every 250 feet drilled to promote solids settling. Sweep hole with 5-lbs of **Super Sweep** every 250 feet drilled. Severe losses could require dry drilling to casing point.

At total depth, fill slug pit with 100-bbls of system fluid. Use **NewGel** for a 60-70 sec/1000 cc viscosity and 0.25-ppb of **Super Sweep**. Sweep hole with 50-bbls and spot the remaining 50-bbls on bottom for casing operations

Yates – Aviette Alk St Com #2 in section 17, T21S, R27E Lost returns @1,580'

Materials Consumption:

90	sx	NewGel
25	sx	Paper
20	sx	Lime
2	cn	New-55
3	bx	Super Sweep



Newpark Drilling Fluids, LLC

H.L. Brown Operating, LLC

Federal 8 Com #2

Section 8, T-21-S, R-27-E

Eddy County, New Mexico

Open Hole Interval

Interval: 2,600' – 9,900'
Hole Size: 8-3/4"
Casing Size: -
Total Days: 15
Mud Type: Fresh Water to Cut-Brine
Properties:
 Weight: 8.4 – 9.3 ppg
 Viscosity: 28 – 29 sec/1000cc
 Filtrate: N/C
 pH: 9 – 10

Interval Discussion:

Drill out from 9-5/8" casing with fresh water. Circulate through the remaining portion of the reserve pit for gravitational solids removal. Use sweeps of **Paper** to control seepage loss. Mix **Lime** for pH control. Mix one gallon of **New-55** at flowline for every 250 feet drilled to promote solids settling. Sweep hole with 5-lbs of **Super Sweep** every 500 feet drilled.

Maintain sufficient 10-ppg brine water on location to balance abnormal pressure that could develop in the Lower Bone Spring and/or Upper Wolfcamp. Begin raising mud weight at 9,000' with additions of 10-ppg brine at the flow line.

Fasken – El Paso Fed #11 in section 12, T21S R26E Lost returns @ 6,141'

Materials Consumption:

80	sx	Paper
60	sx	Lime
6	sx	New-55
6	bx	Super Sweep



Newpark Drilling Fluids, LLC

H.L. Brown Operating, LLC

Federal 8 Com #2

Section 8, T-21-S, R-27-E

Eddy County, New Mexico

Production Interval

Interval: 9,900' – 11,800'
Hole Size: 8-3/4"
Casing Size: 5-1/2"
Total Days: 9
Mud Type: Dynazan-Starch (white)-Barite
Properties:
 Weight: 9.3 – 11.5 ppg
 Viscosity: 34 – 40 sec/1000cc
 Filtrate: 10 – 8 cc/30min
 pH: 9 – 10

Interval Discussion:

At **9,900'**, confine circulation to steel pits and displace the entire system with fluid from the previous interval. Adjust and maintain pH with **Caustic Soda**. Treat the system with **Newcide** to prevent bacterial degradation of organic materials. Raise viscosity to 36-40 sec/1000cc with **Dyanzan**. Mix **Starch** (white) to control API filtrate at <10cc. Use **Defoam-S** to minimize foaming. If abnormal pressures are encountered mix **Barite** to increase mud weight.

At **10,850'**, lower API filtrate to <8cc with Starch. Maintain the above fluid properties as described in the previous paragraph.

At total depth, increase the viscosity to 40-45 sec/1000cc with **Dynazan** for logging and casing operations.

Materials Consumption:

36	sx	Dynazan
75	sx	Starch
20	sx	Caustic Soda
15	cn	Newcide
5	cn	S-10 Defoamer

H. L. Brown Operating, L.L.C.

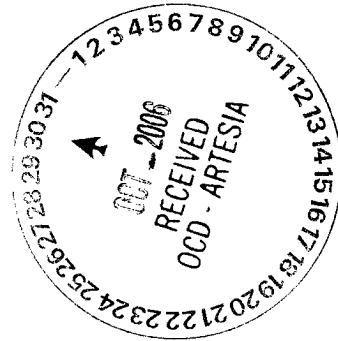
Post Office Box 2237
Midland, Texas 79702-2237

October 27, 2006

New Mexico Oil & Gas Conservation Division
1301 West Grand Avenue
Artesia, New Mexico 88210

Attn: Bryan Arrant

RE: **Federal "8" Com #2 – Drilling Permit**
1620' FSL & 765' FWL
Section 8, T-21-S, R-27-E
Eddy County, NM



Dear Mr. Arrant:

The current C-102 and detailed mud program that you requested are attached. Should you need further information, please contact this office at 432-683-5216.

Very truly yours,
H. L. Brown Operating, L. L. C.

Robert McNaughton
Operations Manager

RTM/
Enclosures

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 73280	³ Pool Name Burton Flat Morrow (Pro Gas)
⁴ Property Code	⁵ Property Name Federal "8" Com	⁶ Well Number 2
⁷ OGRID No. 213179	⁸ Operator Name H. L. Brown Operating L. L. C.	⁹ Elevation 3229'

10 Surface Location

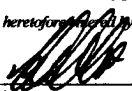
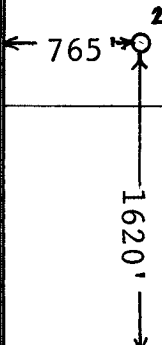
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	8	21 S	27 E		1620'	South	765'	West	Eddy

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

<div data-bbox="74 989 316 1242"><div>16</div></div>				<div data-bbox="1047 989 1505 1242"><div>17</div><div>OPERATOR CERTIFICATION</div><div>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 approved by the division.</div><div><div></div><div>10-27-06</div></div><div>SignatureDate</div><div>Robert McNaughton</div><div>Printed Name</div><div>Operations Manager/ Engineer</div></div>
<div data-bbox="74 1476 316 1962"><div></div></div>				<div data-bbox="1047 1476 1505 1962"><div>18</div><div>SURVEYOR CERTIFICATION</div><div>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.</div><div>Date of Survey</div><div>Signature and Seal of Professional Surveyor:</div><div>Refer to Original Submitted Plat</div><div>Certificate Number</div></div>

Arrant, Bryan, EMNRD

From: Arrant, Bryan, EMNRD
Sent: Tuesday, October 24, 2006 10:06 AM
To: 'robertm@hlboperating.com'
Subject: Federal 8 Com. # 2

Dear Mr.. Brown,

In review of the above noted application to drill (APD), please submit the following information:

An amended C-102 that is current. You may obtain a copy from our web site: <http://www.emnrd.state.nm.us/ocd>
There is no need to have the well re surveyed. Simply note: "Refer to original plat submitted".

I cannot approve for your company to drill the Capitan reef as noted with a native brine mud . I have already made the corrections in your APD.

However, please submit a mud program from your drilling contractor so that I can review your complete mud program in detail.

I have amended the intermediate casing setting depth to @ 2600'. This is in order to eliminate the possibility of contaminating and isolating the Capitan Reef from any oil, gas and water bearing zones. Please refer to NMOCD rule 19.15.3.106. for more information.

Please feel free to call me if you have any questions.

Yours truly,

Bryan Arrant
District II Geologist
NMOCD-Artesia
505-748-1283 ext. 103

CC: Well File

10/24/2006



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

Mark E. Fesmire, P.E.

Director

Oil Conservation Division

October 31, 2006

H.L. Brown, LLC
300 West Louisiana
Midland, TX 79702
Attn: Robert T. McNaughton or To Whom It May Concern:

Dear Mr. McNaughton or To Whom It May Concern:

RE: **H.L. Brown, LLC: Application to drill (APD) for the Fed 8 Com. #2.**
Surface location in Unit L, of Section 8, Township 21 South, Range 27 East, Eddy County, New Mexico,
NMPM. API # 30-015-35220

In reference to the above noted APD, the New Mexico Oil Conservation Division (NMOCD) will require (in part) that drilling mud samples from the flow line be sampled every 100' in order to determine chloride levels during the drilling of the Capitan Reef section of the well bore. Results are to be submitted to our office before drilling to total depth of the well bore. Please note that the Capitan Reef section is to be drilled with a fresh water mud. Please call me if you have any questions about this matter.

Respectfully yours,

Bryan G. Arrant
NMOCD's District II Geologist
Artesia, New Mexico
505-748-1283 ext. 103

CC: well file