

DATE IN <u>6.4.12</u>	SUSPENSE	ENGINEER <u>WWT</u>	LOGGED IN <u>6.4.12</u>	TYPE <u>SWD</u>	APP NO. <u>1215643039</u>
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PTG-W

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION  
 - Engineering Bureau -  
 1220 South St. Francis Drive, Santa Fe, NM 87505



Nacogdoches Oil 6-  
 256689

S. Hospah SWD 33  
 30-031-20124

**ADMINISTRATIVE APPLICATION CHECKLIST**

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Application Acronyms:**

- [NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
- [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
- [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
- [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
- [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
- [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]  
 [A] Location - Spacing Unit - Simultaneous Dedication  
 NSL  NSP  SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement  
 DHC  CTB  PLC  PC  OLS  OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  
 WFX  PMX  SWD  IPI  EOR  PPR

SOUTH HOSPAPH SWD 33  
 30-031-20124

[D] Other: Specify \_\_\_\_\_

F-12-17N-9W

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or Does Not Apply

- [A]  Working, Royalty or Overriding Royalty Interest Owners
- [B]  Offset Operators, Leaseholders or Surface Owner
- [C]  Application is One Which Requires Published Legal Notice
- [D]  Notification and/or Concurrent Approval by BLM or SLO  
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E]  For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F]  Waivers are Attached

3800' - 3900'  
 760/152  
 CHO'S  
 ACAT'S

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is accurate and complete to the best of my knowledge. I also understand that no action will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

BRIAN WOOD  
 Print or Type Name

Signature

*Brian Wood*

CONSULTANT  
 Title

10-31-11  
 Date

brian@permitswest.com  
 e-mail Address



New Mexico Energy, Minerals and Natural Resources Department

**Susana Martinez**  
Governor

**John H. Bemis**  
Cabinet Secretary

**Brett F. Woods, Ph.D.**  
Deputy Cabinet Secretary

**Jami Bailey**  
Division Director  
Oil Conservation Division



February 17, 2012

Nacogdoches Oil and Gas, Inc.  
Attn: Taylor Mathews  
816 North Street  
Nacogdoches, Texas 75961

Email: [taylor.mathews@nogtx.com](mailto:taylor.mathews@nogtx.com)

**Re: Operator: Nacogdoches Oil and Gas, Inc. — OGRID #256689  
Agreed Compliance Order 252**

Dear Operator:

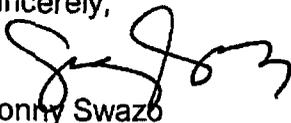
Enclosed is your copy of executed Agreed Compliance Order 252 (ACO 252).

ACO 252 allows Nacogdoches Oil and Gas, Inc. (NOG) to obtain an injection permit for the South Hospah Unit #033 (30-031-20124) without being barred by 19.15.5.9 NMAC, and in exchange, NOG has agreed to bring the South Hospah Unit #033 into compliance with 19.15.25.8 NMAC (the inactive well rule) by August 16, 2012 if it is the operator of record of the well on that date.

NOG should attach a copy of this letter to its injection permit application so that the engineering bureau of the Oil Conservation Division knows that NOG has Division approval to proceed and obtain an injection permit for the South Hospah Unit #033.

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

Sincerely,



**Sonny Swazo**  
Assistant General Counsel, OCD

CC: Daniel Sanchez, OCD Enforcement and Compliance Manager  
William Jones, OCD Engineering Bureau  
David Burns, Dominion Production Company, LLC, [burnsdavid@verizon.net](mailto:burnsdavid@verizon.net)

2012 JUN -1 P 12:38  
RECEIVED OGD



APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: \_\_\_\_\_ Secondary Recovery \_\_\_\_\_ Pressure Maintenance XXX Disposal \_\_\_\_\_ Storage  
Application qualifies for administrative approval? \_\_\_\_\_ Yes \_\_\_\_\_ No

II. OPERATOR: NACOGDOCHES OIL AND GAS, INC.  
ADDRESS: P. O. BOX 632418, NACOGDOCHES, TX 75963  
CONTACT PARTY: BRIAN WOOD (PERMITS WEST, INC.) PHONE: 505 466-8120

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? \_\_\_\_\_ Yes XXX No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including: **SOUTH HOSPAP SWD 33**  
**30-031-20124**  
1. Proposed average and maximum daily rate and volume of fluids to be injected;  
2. Whether the system is open or closed;  
3. Proposed average and maximum injection pressure;  
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,  
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

\*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

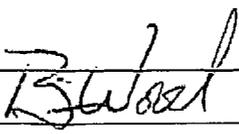
\*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

\*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: BRIAN WOOD  TITLE: CONSULTANT  
SIGNATURE: \_\_\_\_\_ DATE: OCTOBER 31, 2011  
E-MAIL ADDRESS: brian@permitswest.com

\* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: \_\_\_\_\_

### III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

### XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

**NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.**

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**NOTICE:** Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

INJECTION WELL DATA SHEET

OPERATOR: NACOGDOCHES OIL AND GAS, INC.

WELL NAME & NUMBER: SOUTH HOSPAH SWD 33

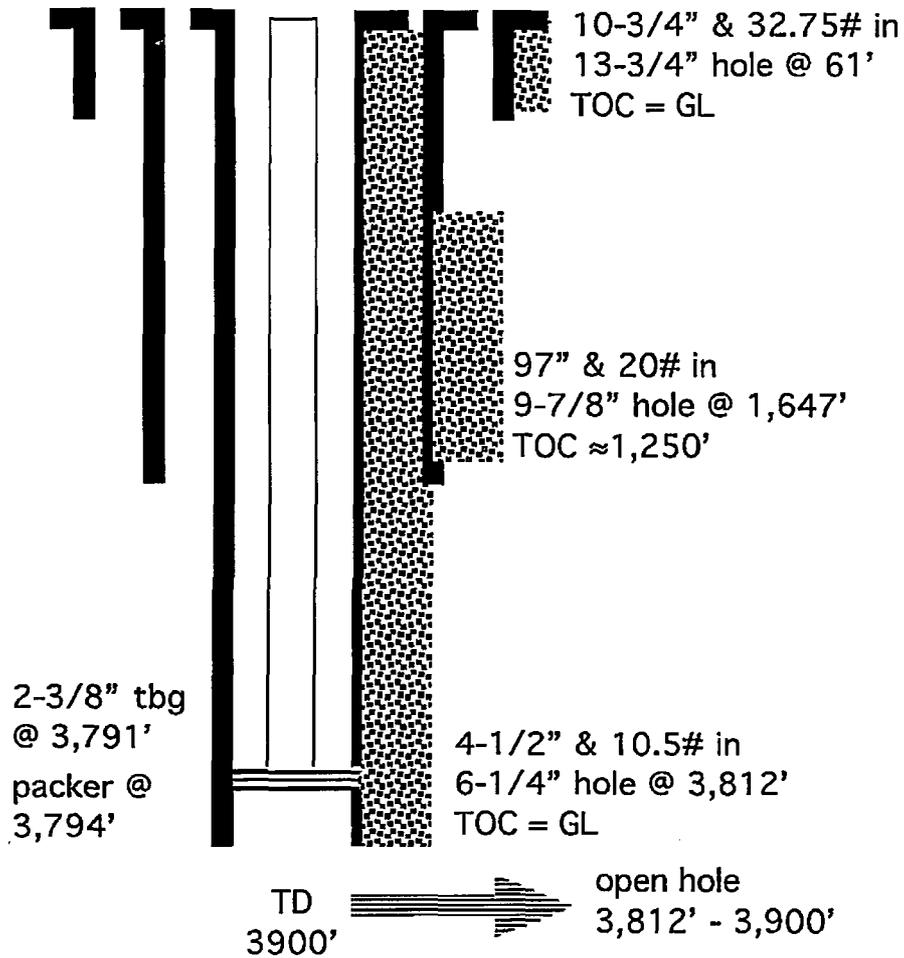
WELL LOCATION: 1340' FNL & 1710' FWL      F      12      17 N      9 W  
 FOOTAGE LOCATION      UNIT LETTER      SECTION      TOWNSHIP      RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

(not to scale)



Hole Size: 13-3/4"      Casing Size: 10-3/4"  
 Cemented with: 70 sx.      or \_\_\_\_\_ ft<sup>3</sup>  
 Top of Cement: SURFACE      Method Determined: VISUAL

Intermediate Casing

Hole Size: 9-7/8"      Casing Size: 7"  
 Cemented with: 125 sx.      or \_\_\_\_\_ ft<sup>3</sup>  
 Top of Cement: ≈1,250'      Method Determined: CALCULATED

Production Casing

Hole Size: 6-1/4"      Casing Size: 4-1/2"  
 Cemented with: 469 sx.      or \_\_\_\_\_ ft<sup>3</sup>  
 Top of Cement: SURFACE      Method Determined: CBL  
 Total Depth: 3,900' (4-1/2" liner will be set at 3,812')

Injection Interval

3,812 feet to 3,900'

(Perforated or Open Hole; indicate which)



INJECTION WELL DATA SHEET

Tubing Size: 2-3/8" J-55 4.7# Lining Material: \_\_\_\_\_

Type of Packer: BAKER TENSION PACKER

Packer Setting Depth: 3,794' (18' ABOVE TOP OF OPEN HOLE)

Other Type of Tubing/Casing Seal (if applicable): \_\_\_\_\_

Additional Data

1. Is this a new well drilled for injection? (DISPOSAL) \_\_\_\_\_ Yes XXX No

If no, for what purpose was the well originally drilled? \_\_\_\_\_

OIL WELL (HOSPAH SOUTH LOWER SAND)

2. Name of the Injection Formation: SWD; ENTRADA

3. Name of Field or Pool (if applicable): SWD; ENTRADA (POOL CODE 96436)

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. \_\_\_\_\_

OPEN HOLE 1,647' - 1,660'; WILL RUN LINER ACROSS INTERVAL & CEMENT TO SURFACE

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: \_\_\_\_\_

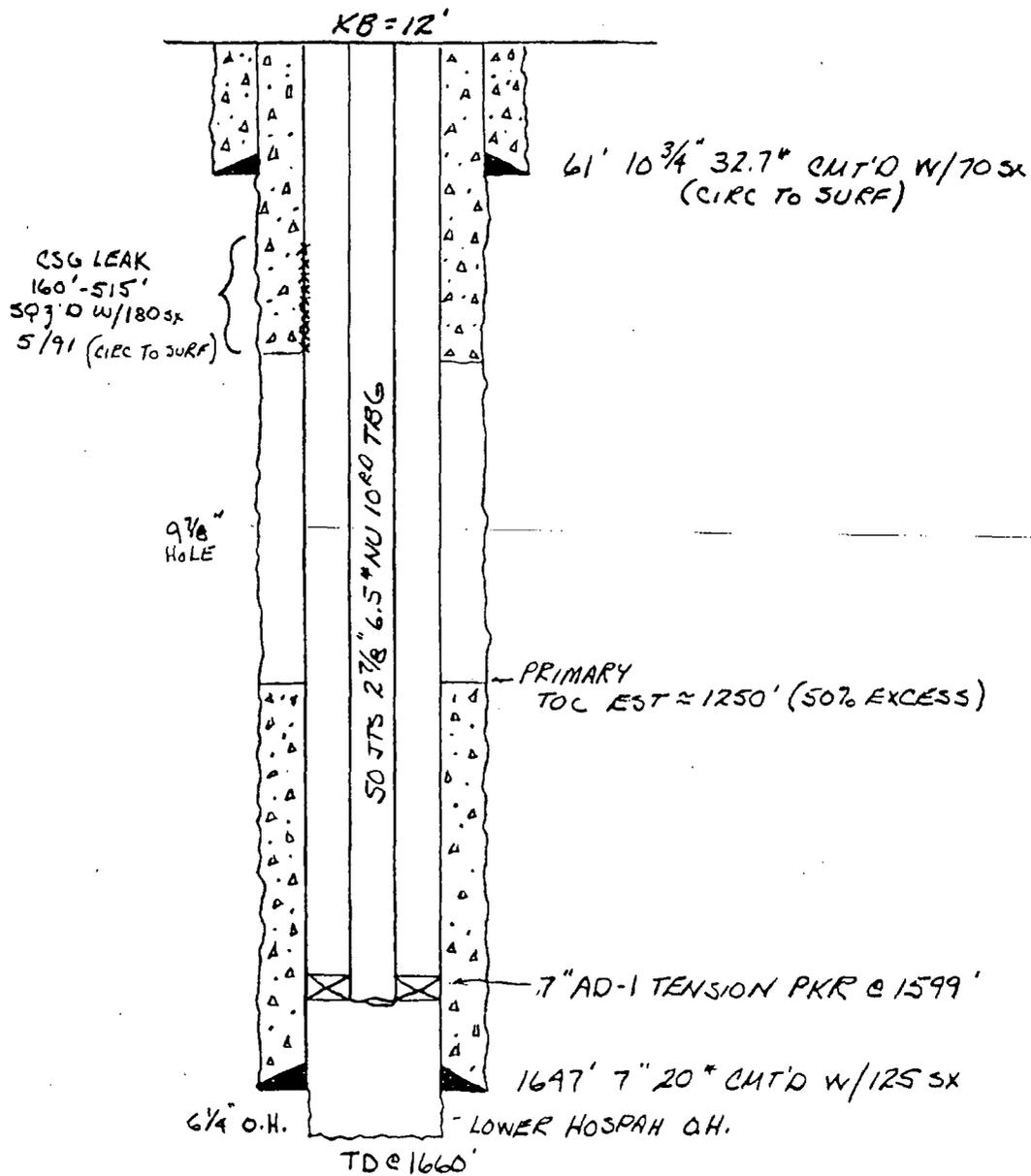
OVER: UPPER HOSPAH (1,590'), LOWER HOSPAH (1,648'), DAKOTA (2,507')

UNDER: NONE WITHIN DOZENS OF MILES

## General Purpose Worksheet

Subject	HOSPAN LOWER #33 WIN	Page No.	Of
File	SEC 12 T17N, R9W MCKINLEY CO. NM	By	KANE
		Date	6-5-91

CURRENT STATUS



NACOGDOCHES OIL AND GAS, INC.  
SOUTH HOSPAH SWD 33  
1340' FNL & 1710' FWL  
SEC. 12, T. 17 N., R. 9 W.  
McKINLEY COUNTY, NM

PAGE 1

I. Purpose is water disposal into the Entrada zone.

II. Operator: Nacogdoches Oil and Gas, Inc.  
Operator phone number: (936) 560-4747  
Operator address: P. O. Drawer 632418  
Nacogdoches, TX 75963  
Contact: Brian Wood (Permits West, Inc.)  
Phone: (505) 466-8120

III. A. (1) Lease: BLM lease NMNM-012335 (excludes Upper Hospah Sand)  
Lease Size: 344.08 acres (see Exhibit A)  
Lease Area: NW4, W2NE4, & Lots 1-4; T. 17 N., R. 9 W.  
Closest Lease Line: 1,300'  
Well Name & Number: South Hospah SWD 33\* (API 30-031-20124)  
\*The well is currently South Hospah Unit 33, a shut-in Hospah Lower Sand, South water injection well. Unit has been terminated.  
Location: 1340' FNL and 1710' FWL Sec. 12, T. 17 N., R. 9 W.  
(Form C-102, Exhibit B)

A. (2) Surface casing (10-3/4", 32.75#) was set in 1969 at 61' in a 13-3/4" hole. Surface casing was cemented with 70 sacks of an unknown type of cement. Sundry Notice dated 9-12-69 indicates cement circulated to the surface.

Well was drilled to a TD of 1,660'. Production casing (7", 20#) was set at 1,647' in a 9-7/8" hole. Cemented with 125 sacks (type cement unknown) to a calculated top of ≈1,250' based on 50% excess. Well was completed as an open hole in the South Hospah Lower Sand from 1,647' to 1,660'.

Plan to deepen the well and drill a 6-1/4" hole to 3,900' and then run a cement bond log prior to (and after) running the liner. Will run a 4-1/2", 10.5#, J-55 liner and set it at 3,812' (open hole completion). Will set a Type A open hole packer shoe in a hard

NACOGDOCHES OIL AND GAS, INC.  
SOUTH HOSPAH SWD 33  
1340' FNL & 1710' FWL  
SEC. 12, T. 17 N., R. 9 W.  
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limestone cap that is just above the Entrada top (3,812'). Cement with 277 sacks (25% excess) premium light + 1% calcium chloride from 3,812' to 1,647'. Cement with 192 sacks premium light + 1% calcium chloride from 1,647' to surface.

- A. (3) Tubing will be 2-3/8", J-55, 4.7#. It will be set at  $\approx$ 3,791' (within 50', less the packer) which will be 21' above the top of the open hole.
- A. (4) A Baker Tension packer will be set at  $\approx$ 3,794' (which will be 18' above the top of the open hole).
  
- B. (1) Disposal zone will be the Entrada sandstone (pool code 96436).
- B. (2) Disposal interval will be 3,812' to 3,900' (open hole).
- B. (3) Well was drilled by Tenneco in 1969 to 1,660'. It was completed as an open hole (1647' - 1660') Hospah Lower Sand, South oil well (pool code 33070). Well history is:

September 7, 1969 by Tenneco

spud well and drill to 64'  
set 2 joints 10-3/4" 32.75 casing in 13-3/4" hole at 61'  
cemented with 70 sacks and circulated to surface

September 10, 1969 by Tenneco

reach TD at 1,660'  
set 7" 20# casing in 9-7/8" hole at 1,647'  
cement with 125 sacks

September 12, 1969 by Tenneco

ran 51 joints 2-7/8" EUE 6.5# tubing landed at 1,640'  
ran 2-1/4" pump on 65 of 3/4" x 25' sucker rods

September 7, 1972 by Tenneco

receive approval (Case 4793, Order R-4389) from OCD for water injection

NACOGDOCHES OIL AND GAS, INC.  
SOUTH HOSPAH SWD 33  
1340' FNL & 1710' FWL  
SEC. 12, T. 17 N., R. 9 W.  
McKINLEY COUNTY, NM

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September 25, 1972 by Tenneco

Pull rods, tubing, & pump  
Set AD-1 tension packer at 1,596'  
run 50 joints 2-7/8" 6.4# J-55 internally plastic coated tubing

October 4, 1972 by Tenneco

start injection at 140 Mcfd and 720 bwpd at 800 psi

November 1, 1987

Citation Oil & Gas Corp. succeeds Tenneco as operator

May 17 - 31, 1991 by Citation

leak found from 160' to 515'  
squeezed with 180 sacks Class B and circulated to surface  
set packer at 1,592' and pressure test to 100 psi.

September 6, 1994

BC & D Operating, Inc. succeeds Citation as operator

December 11, 2004 by BC & D

Bradenhead test tubing to 190 psi

December 1, 2005

Mountain States Petroleum Corp. succeeds BC & D as operator

August 31, 2007

Nacogdoches succeeds Mountain Sates as operator

Well will be for Nacogdoches' exclusive use and for the sole purpose of water disposal from present and future Nacogdoches wells.

- B. (4) Well bore has not been perforated. It is currently open hole from 1,647' to 1,660'. This interval will be covered with a cemented liner from the surface to 3,812'.
- B. (5) Top of the Entrada is at 3,812'. Bottom of the Entrada is at >3,900'. Proposed disposal interval will 3,812' - 3,900'

NACOGDOCHES OIL AND GAS, INC.  
 SOUTH HOSPAH SWD 33  
 1340' FNL & 1710' FWL  
 SEC. 12, T. 17 N., R. 9 W.  
 MCKINLEY COUNTY, NM

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Bottom of the closest oil or gas zone (Dakota) is at  $\approx 2,739'$ . There will be a  $\approx 1,073'$  interval between the bottom of the Dakota and the top of the Entrada. Closest (686' northeast) historic Dakota producer is Nacogdoches' South Hospah 10 (30-031-60017). It has since been plugged back and it is now a Hospah Lower Sand, South oil well. Closest current Dakota producer is Nacogdoches' Whigham 3 (30-031-2-129) which is 2,272' southwest.

There is no underlying producing zone. Oil is being produced elsewhere in the San Juan Basin from the Entrada. However, closest historic Entrada production is in the now plugged and abandoned Snake Eyes Field which is  $\approx 21$  miles north (20-21n-8w).

IV. This is not an expansion of an existing injection project. There is a water flood in the Hospah Field. However, all producing wells benefitting from that water flood are Hospah oil wells. This will be purely an Entrada disposal well.

V. A map (Exhibit C) showing the 59 existing wells within the half mile radius area of review is attached. (An 60th well is 11' beyond the 1/2 mile radius and is also included.) Only one of the wells penetrated the Entrada. That well is Nacogdoches' South Hospah 9 (30-031-20013). It is an Entrada SWD and is 2,103' northeast. All of the remaining wells were Mancos, Hospah Dakota, Hospah Upper Sand, South (HUSS), or Hospah Lower Sand, South (HLSS), or Hospah Lower and Upper Sands South (HLUSS). A tabulation of the wells within the half mile radius follows.

<u>OPERATOR</u>	<u>WELL</u>	<u>API 30-031-</u>	<u>T. 17 N., R. 9 W.</u>	<u>ZONE</u>	<u>STATUS</u>	<u>TD</u>	<u>DISTANCE</u>
Nacogdoches	S. Hospah 37X	20135	NWNW Sec. 12	HLSS	OW	1666'	434'
Citation	Hospah 34	20123	SENW Sec. 12	HLSS	P & A	1661'	480'
Nacogdoches	S. Hospah 14	20053	SWNW Sec. 12	HLSS	OW	1758'	516'
Nacogdoches	S. Hospah 47	20361	NENW Sec. 12	HLSS	OW	1780'	558'
Nacogdoches	S. Hospah 52	20243	NENW Sec. 12	HUSS	WIW	1622'	635'

NACOGDOCHES OIL AND GAS, INC.  
 SOUTH HOSPAH SWD 33  
 1340' FNL & 1710' FWL  
 SEC. 12, T. 17 N., R. 9 W.  
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<u>OPERATOR</u>	<u>WELL</u>	<u>API 30-031-</u>	<u>T. 17 N., R. 9 W.</u>	<u>ZONE</u>	<u>STATUS</u>	<u>TD</u>	<u>DISTANCE</u>
Nacogdoches	S. Hospah 11	20016	SEnw Sec. 12	HLSS	OW	1774'	675'
Nacogdoches	S. Hospah 10	60017	NENw Sec. 12	HLSS	OW	2827'	686'
Nacogdoches	S. Hospah 4	05145	NENw Sec. 12	HUSS	OW	1640'	694'
Nacogdoches	S. Hospah 16	20056	SEnw Sec. 12	HUSS	OW	1710'	746'
Nacogdoches	S. Hospah 13	20054	SEnw Sec. 12	HLUSS	OW	1720'	944'
Nacogdoches	S. Hospah 32	20125	NENw Sec. 12	HLUSS	OW	1647'	1029'
Nacogdoches	S. Hospah 46	20360	SWNW Sec. 12	HLSS	OW	1696'	1072'
Nacogdoches	S. Hospah 12	20020	SWNW Sec. 12	HLSS	OW	1840'	1091'
Nacogdoches	S. Hospah 48	20362	SWNE Sec. 12	HUSS	OW	1635'	1091'
Citation	S. Hospah 65	20614	SWNE Sec. 12	HUSS	P & A	1715'	1134'
Nacogdoches	S. Hospah 2	05139	SEnw Sec. 12	HUSS	OW	1637'	1140'
Tenneco	Core Hole 1	20776	SWNE Sec. 12	HLSS	P & A	1719'	1167'
Nacogdoches	S. Hospah 51	20242	SWNW Sec. 12	HUSS	WIW	1662'	1173'
Tenneco	Hospah 67	20616	SWNW Sec. 12	HUSS	P & A	1715'	1198'
Tenneco	Core Hole 2	20777	SWNE Sec. 12	HLSS	P & A	1742'	1220'
Nacogdoches	S. Hospah 5	05146	NWNE Sec. 12	HUSS	WIW	1645'	1236'
Citation	Hospah 66	20615	SWNE Sec. 12	HUSS	P & A	1715'	1271'
Nacogdoches	S. Hospah 36	20118	NWNE Sec. 12	HLSS	WIW	1635'	1341'
BC & D	S. Hospah 18	20058	SWNE Sec. 12	HUSS	WIW	1750'	1355'
Nacogdoches	S. Hospah 61	20546	NWNE Sec. 12	HLSS	OW	1715'	1405'
Nacogdoches	S. Hospah 31	20122	NWNE Sec. 12	HLSS	OW	1651'	1490'
Nacogdoches	S. Hospah 17	20057	SWNE Sec. 12	HUSS	WIW	1787'	1585'
Nacogdoches	S. Hospah 24	20091	NWNE Sec. 12	HLSS	OW	1,711'	1602'
Petroleum	Santa Fe 46	05155	SESW Sec. 1	HLSS	P & A	1642'	1671'
Nacogdoches	Santa Fe 84	20372	SWSE Sec. 1	HLSS	WIW	1656'	1674'
Nacogdoches	S. Hospah 59	20410	SWNE Sec. 12	HLUSS	WIW	1657'	1725'
Nacogdoches	S. Hospah 21	05134	NESW Sec. 12	HUSS	OW	1647'	1733'
Nacogdoches	S. Hospah 15	20055	SWNW Sec. 12	HUSS	OW	1790'	1802'
Nacogdoches	S. Hospah 49	20363	NWNE Sec. 12	HLSS	OW	1639'	1839'
Nacogdoches	S. Hospah 57	20408	SWNW Sec. 12	HLSS	WIW	1746'	1860'
Nacogdoches	S. Hospah 22	05498	NWSW Sec. 12	HUSS	OW	1734'	1867'

NACOGDOCHES OIL AND GAS, INC.  
 SOUTH HOSP AH SWD 33  
 1340' FNL & 1710' FWL  
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<u>OPERATOR</u>	<u>WELL</u>	<u>API 30-031-</u>	<u>T. 17 N., R. 9 W.</u>	<u>ZONE</u>	<u>STATUS</u>	<u>TD</u>	<u>DISTANCE</u>
Nacogdoches	S. Hospah 8	20015	SWNE Sec. 12	HLSS	OW	1709'	1876'
Nacogdoches	S. Hospah 1	05142	SWNE Sec. 12	HUSS	OW	1565'	1953'
Nacogdoches	S. Hospah 30	20121	NWNE Sec. 12	HLUSS	OW	1622'	1958'
Whigham	CTV Hospah 1	05143	SWNE Sec. 12	Mancos	P & A	688'	1961'
BC&D	S. Hospah 19	05137	NWSE Sec. 12	HUSS	P & A	1638'	2012'
Nacogdoches	S. Hospah 9	20013	NWNE Sec. 12	Entrada	SWD	6945'	2103'
CTV	Whigham 2	05596	SENE Sec. 11	Gallup	P & A	1960'	2138'
Nacogdoches	Santa Fe 89	20422	SWSE Sec. 1	HLSS	OW	1769'	2211'
Nacogdoches	S. Hospah 29	20120	NWNE Sec. 12	HLSS	OW	1625'	2228'
Nacogdoches	S. Hospah 62	20545	NWNE Sec. 12	HLSS	OW	1710'	2236'
Nacogdoches	Whigham 3	20129	SESE Sec. 11	Hospah Dakota	OW	2885'	2272'
Citation	S. Hospah 23	20024	NESW Sec. 12	Hospah Dakota	OW	2968'	2285'
Nacogdoches	Santa Fe 79	20099	SWSE Sec. 1	HLSS	OW	1665'	2311'
Citation	S. hospah 55	20299	SENE Sec. 12	HUSS	P & A	1583'	2390'
Nacogdoches	S. Hospah 28	20095	NENE Sec. 12	HUSS	OW	1675'	2448'
Citation	S. Hospah 40	20161	SENE Sec. 12	HUSS	OW	1637'	2504'
Nacogdoches	Santa Fe 73	20019	SWSE Sec. 1	HLSS	OW	1665	2528'
Nacogdoches	S. Hospah 3	05140	SENE Sec. 12	HLSS	OW	1603'	2530'
Nacogdoches	S. Hospah 25	20092	NENE Sec. 12	HLSS	OW	1702'	2596'
Citation	S. Hospah 43	05655	NESE Sec. 11	HUSS	P & A	1753'	2611'
Citation	S. Hospah 41	20154	NENE Sec. 12	HLSS	P & A	1637'	2612'
Nacogdoches	Santa Fe 81	20134	SWSE Sec. 1	HLSS	OW	1655'	2617'
Citation	S. Hospah 56	20300	NENE Sec. 12	HUSS	P & A	1602'	2636'
Nacogdoches	S. Hospah 63	20544	NENE Sec. 12	HLSS	WIW	1695'	2651'

A map (Exhibit D) showing all 304 wells (139 producing oil wells + 29 water injection or disposal wells + 133 P & A wells + 3 water supply wells) within a two mile radius is attached.

NACOGDOCHES OIL AND GAS, INC.  
 SOUTH HOSPAH SWD 33  
 1340' FNL & 1710' FWL  
 SEC. 12, T. 17 N., R. 9 W.  
 MCKINLEY COUNTY, NM

Exhibit E shows all leases within a half mile radius. Details are:

<u>T. 17 N., R. 9 W.</u>	<u>LESSOR</u>	<u>LEASE</u>	<u>LEASEHOLD OPERATOR</u>
all Section 1	fee	fee	Nacogdoches
all Section 2	BLM	unleased	N/A
all Section 11	fee	fee	Nacogdoches
Lots 1-4, W2NE4, NW4 Sec. 12	BLM	NMNM-012335*	Nacogdoches
Lots 1-4, W2NE4, NW4 Sec. 12	BLM	NMNM-081208**	Nacogdoches
Lots 5 & 6, NWSE, & SW4 Sec. 12	BLM	NMNM-125263	Nacogdoches

\*Entrada and all other zones excluding Upper Hospah sand

\*\*Upper Hospah sand only

A map (Exhibit F) showing all lessors within a two mile radius is attached. Lessors are BLM, fee, Navajo allotted (FIMO), or State (NMSLO).

VI. Only one well within a 1/2 mile radius penetrated the proposed disposal zone. It (South Hospah 9) is an Entrada salt water disposal well that is 2,103' northeast. See Exhibit G for its history, location, and construction.

- VII.
1. Average injection rate will be  $\approx$ 5,000 bwpd.  
 Maximum injection rate will be  $\approx$ 7,500 bwpd.
  2. System will be closed. All needed infrastructure is in place. No additional facilities will be needed.
  3. Average injection pressure will be  $\approx$ 750 psi  
 Initial maximum injection pressure will be  $\approx$ 762 psi  
 ( $\leq 0.2$  psi x 3812' depth at top of open hole = 762.4 psi)  
 Nacogdoches will conduct a step rate test to raise the maximum if justified by test results and approved by government agencies.
  4. Water source will be existing and future Nacogdoches wells in the San Juan Basin. Nacogdoches has >100 existing wells in the basin. Analyses of Entrada water from the South Hospah 9 (receiving or target water) and Hospah sand (produced or source water to be disposed) are attached (Exhibit H). An April 19, 1967 Sundry Notice

stated that Tenneco "rec salt wtr" from the Entrada in the South Hospah 9. A summary follows.

<u>Parameter</u>	<u>Entrada run 1</u>	<u>Entrada run 2</u>	<u>Hospah sand</u>	<u>SDWA*</u>
pH	7.65	7.63	8.97	6.5 - 8.5
resistivity	3.2	3.0		
specific gravity	1.011	1.011	1.001	
	(all mg/l)	(all mg/l)	(all mg/l)	(all mg/l)
barium	0	0	0	1.0
bicarbonate	85	98	720	
calcium	441	441	14	
carbonate	<1	<1		
chloride	400	600	410	250
hydroxide	0	0		
iron	0	0	8.25	0.3
magnesium	<0.5	<0.5	18.23	
potassium	3	5		
sodium	691	680	738	
sulfate	1900	1600	525	250
total dissolved solids	3517	3419	2434	500
total hardness CaCO <sub>3</sub>	1102	1102	110	

\* Safe Drinking Water Act

5. The Entrada has not been found to be productive within two miles of the well. No oil or gas has been found in the 13 Entrada wells (Exhibit I) which have been drilled in Townships 16 , 17, and 18 North and Ranges 8, 9, and 10 West.

Closest current Entrada production is the Eagle Springs 8 Federal 1H (30-043-20949). It >28 miles east-northeast in 8-19n-4w in the Arena Blanca Entrada, Southeast Pool.

In general, Entrada water near recharge zones (basin fringe) has a specific conductance of <1,500  $\mu$ mhos. Entrada water from deeper parts of the basin has a specific conductance of >10,000  $\mu$ mhos. Stone et al in Hydrogeology and water resources of San Juan Basin, New Mexico wrote, "Generally, however, water from the Entrada is not suitable for drinking, especially in deeper parts of the basin." Closest water disposal well in the Entrada is Nacogdoches'

NACOGDOCHES OIL AND GAS, INC.  
SOUTH HOSPAH SWD 33  
1340' FNL & 1710' FWL  
SEC. 12, T. 17 N., R. 9 W.  
McKINLEY COUNTY, NM

PAGE 9

South Hospah 9. It is 2,103' northeast in the NWNE Section 12. A total of 264,582 barrels were injected from June, 2010 through July, 2011.

VIII. The Entrada sandstone is a very porous and permeable æolian sandstone. It produces or produced oil elsewhere in the basin (Eagle Mesa, Leggs, Media, Ojo Encino, Papers Wash, Snake Eyes Fields). None of the 13 Entrada tests in T. 17 N., R. 8 W. and the eight surrounding townships have found oil or gas.

Formation tops in this well are:

Menefee Shale: 0'  
Point Lookout Sandstone: 290'  
Mancos Shale: 550'  
Upper Hospah Sandstone: 1590'  
Lower Hospah Sandstone: 1648'  
Dakota Sandstone: 2507'  
Morrison Formation: 2740'  
Todilto Limestone: 3750'  
Entrada Sandstone: 3812'  
Total Depth: 3900'

There is one water well (Exhibit J) within a one mile radius. The Sanders water well is 4,241' northwest. It is 585' deep and the likely aquifer is the Point Lookout. (Note that the State Engineer's point of diversion web site has the incorrect location. The correct location is shown on the well completion report. The distance above is based on the completion report.)

Next closest (7,384' northeast) water well is Nacogdoches' water supply well. It has a total depth of ≈2,700'. It is not used for drinking water. Analyses from both wells are attached in Exhibit J.

No existing underground drinking water source is below the Entrada within a mile. There will be 3,227' of vertical separation between the bottom (585') of the only water well within a mile and the top of the Entrada (3,812').

NACOGDOCHES OIL AND GAS, INC.  
 SOUTH HOSPAH SWD 33  
 1340' FNL & 1710' FWL  
 SEC. 12, T. 17 N., R. 9 W.  
 MCKINLEY COUNTY, NM

IX. The well will be stimulated with 15% HCl.

X. A Schlumberger compensated formation density log is on file with OCD. A cement bond log will be run before and after Nacogdoches runs its liner.

XI. There is one water well within a one mile radius. It is 4,241' northwest and is 585' deep. An analysis from it is attached as Exhibit J.

XII. Nacogdoches is not aware of any geologic or engineering data which may indicate the Entrada is in hydrologic connection with any underground sources of water. There will be 3,227' of vertical separation between the top (3,812') of the Entrada and the bottom (585') of the only water well within a mile. This interval includes at least one shale zone (Mancos).

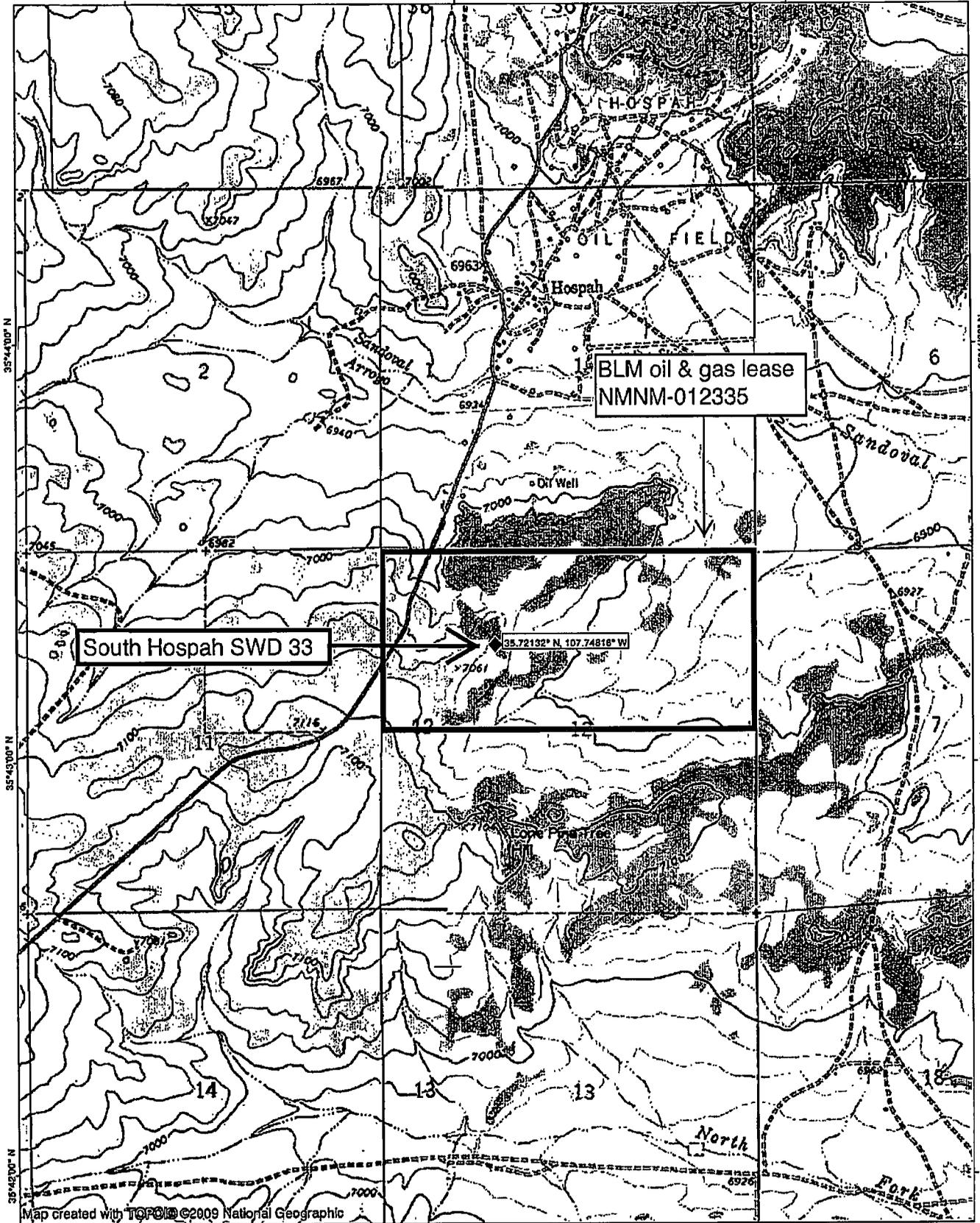
XIII. Notice (this application) will be sent (Exhibit K) to the surface owner (BLM), operators of all wells (only Nacogdoches), and all Entrada lease interest owners within a half mile. Legal ad (Exhibit L) was published on September 10, 2011.

<u>T. 17 N., R. 9 W.</u>	<u>LESSOR</u>	<u>LEASE</u>	<u>LESSEE OR OPERATING RIGHT</u>
all Section 1	fee	fee	Nacogdoches
all Section 2	BLM	unleased	N/A
all Section 11	fee	fee	Nacogdoches
Lots 1-4, W2NE4, NW4 Sec. 12	BLM	NMNM-012335	Nacogdoches, BC&D, R&R
Lots 5 & 6, NWSE, & SW4 Sec. 12	BLM	NMNM-125263	Nacogdoches, R&R

107°46'00" W

107°45'00" W

WGS84 107°44'00" W



South Hospah SWD 33

BLM oil & gas lease  
NMNM-012335

35.72132° N, 107.74818° W

Map created with TOPOI ©2009 National Geographic

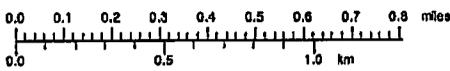
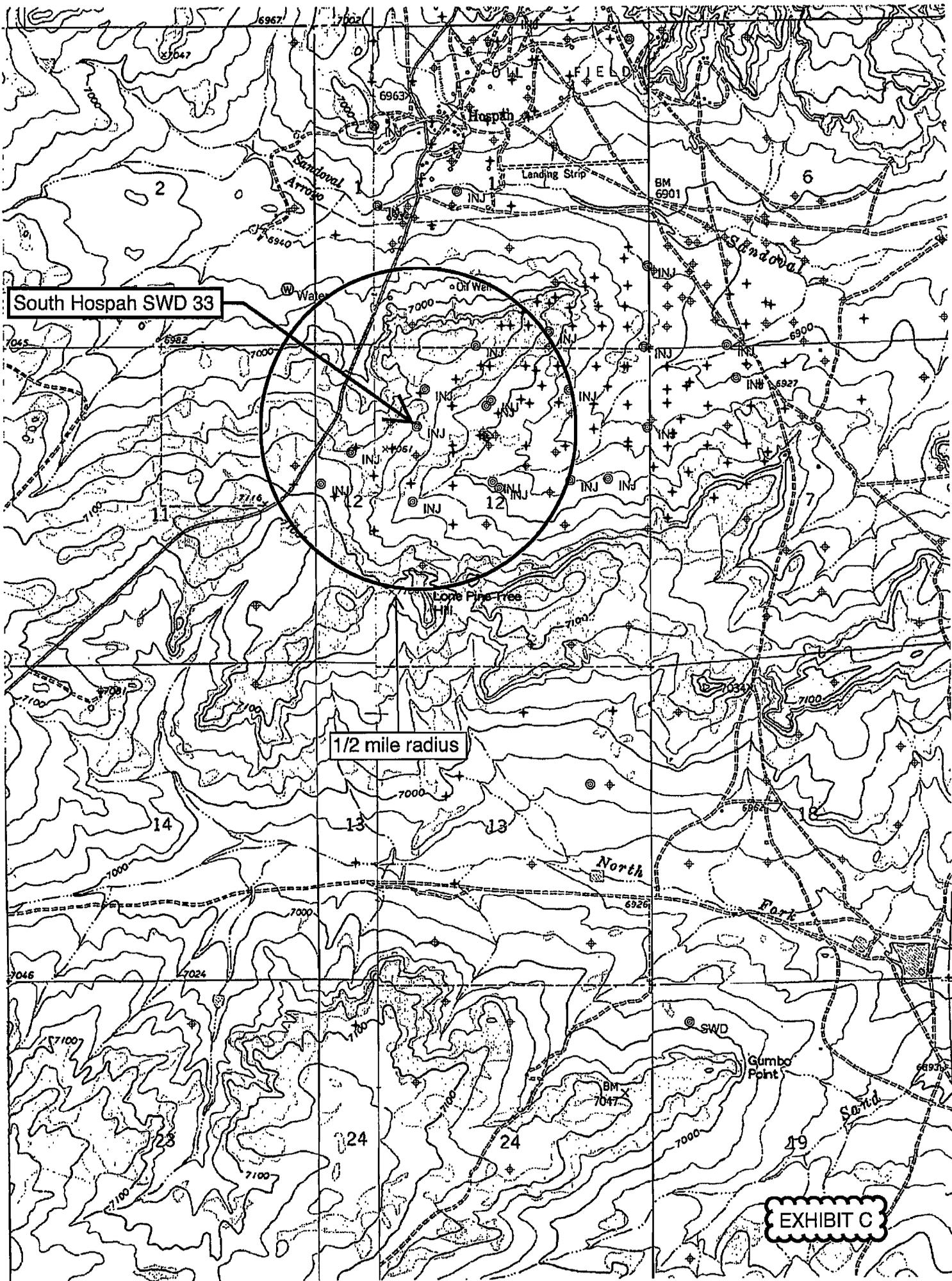


EXHIBIT A

TN+MN  
9.5"  
10/02/11





South Hospah SWD 33

1/2 mile radius

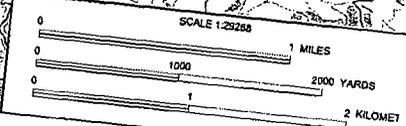
EXHIBIT C



South Hospah SWD 33

2 mile radius

EXHIBIT D





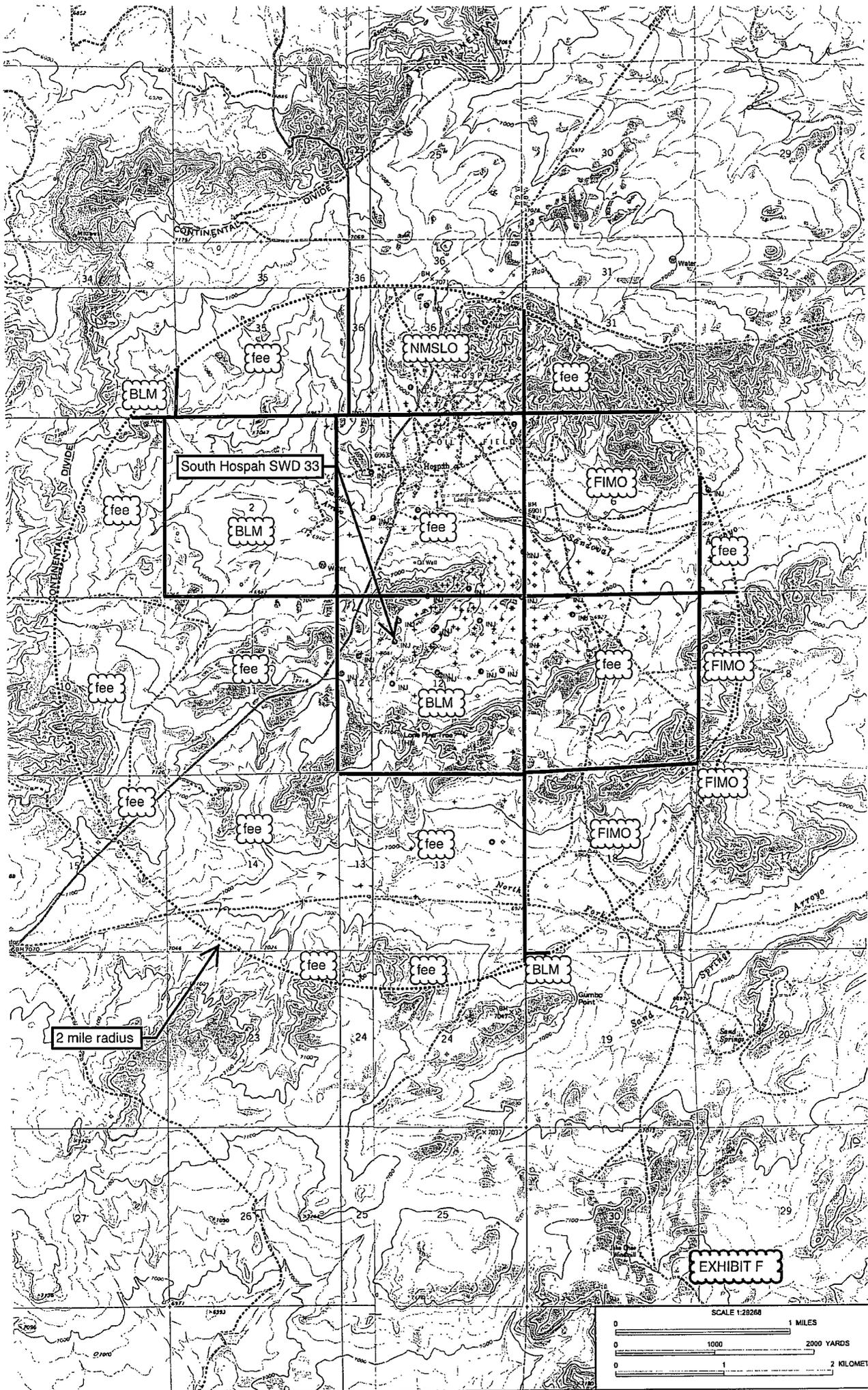
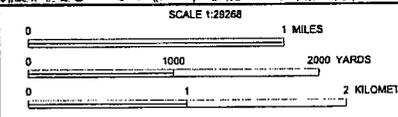


EXHIBIT F



South Hospah SWD 9  
API 30-031-20013  
330 FNL & 2051 FEL 12-17n-9w  
spud: 4-3-67  
converted: 6-9-10

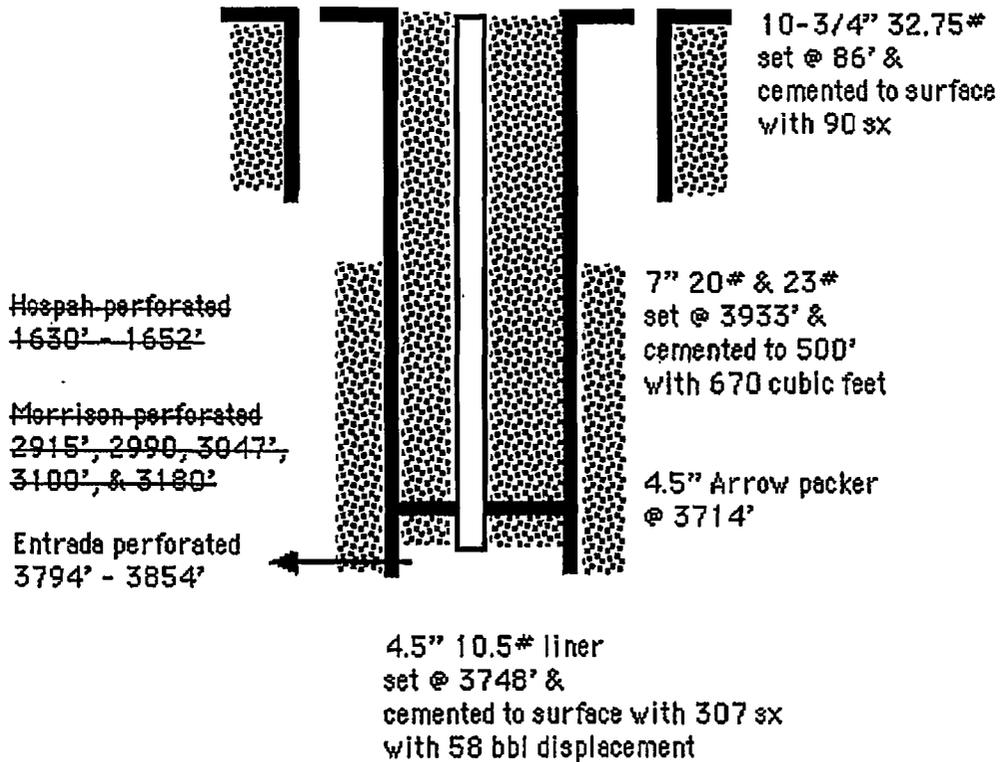


EXHIBIT G



# BJ SERVICES

## Farmington District Lab

### Water Analysis Report

Test # #9

#### Customer/Well Information

<b>Company:</b> ANGELINA WELL	<b>Date:</b> 5/14/09
<b>Well Name:</b> SOUTH HOSPAH#9	<b>Prepared for:</b> ALLEN EAKER
<b>Location:</b> 00-000-00000	<b>Submitted by:</b> ALLEN EAKER
<b>State:</b> San Juan County, NM	<b>Prepared by:</b> RON VALDEZ
<b>Formation:</b> ENTRADA SAND ZONE	<b>Water Type:</b> PRODUCED
<b>Depth:</b> 0	

#### Background Information

**Reason for Testing:** routine

**Completion type:** \_\_\_\_\_

**Well History:** \_\_\_\_\_

**Comments:** RUN #1

#### Sample Characteristics

<b>Sample Temp:</b> 63 (°F)	<b>Viscosity:</b> 1cP
<b>pH:</b> 7.63	<b>Color:</b> GREY
<b>Specific Gravity:</b> 1.010	<b>Odor:</b> HYDROCARBON
<b>S.G. (Corrected):</b> 1.011 @ 60 °F	<b>Turbidity:</b> NONE
<b>Resistivity (Meas.):</b> 3.00 Ω-m	<b>Filtrates:</b> SLIGHT

#### Sample Composition

CATIONS	mg/l	me/l	ppm
Sodium (calc.)	680	29.6	673
Calcium	441	22.0	437
Magnesium	< .5	----	----
Barium	0	0.0	0
Potassium	5	0.1	5
Iron	0.00	0.0	0.00

ANIONS	mg/l	me/l	ppm
Chloride	600	16.9	594
Sulfate	1600	33.3	1584
Hydroxide	0	0.0	0
Carbonate	< 1	----	----
Bicarbonate	98	1.6	97

#### SUMMARY

Total Dissolved Solids(calc.)	3419		3385
Total Hardness as CaCO3	1102	22.0	1091

#### Scaling Tendencies

CaCO3 Factor	43051.36	Calcium Carbonate Scale Probability --> REMOTE
CaSO4 Factor	705760	Calcium Sulfate Scale Probability -----> REMOTE

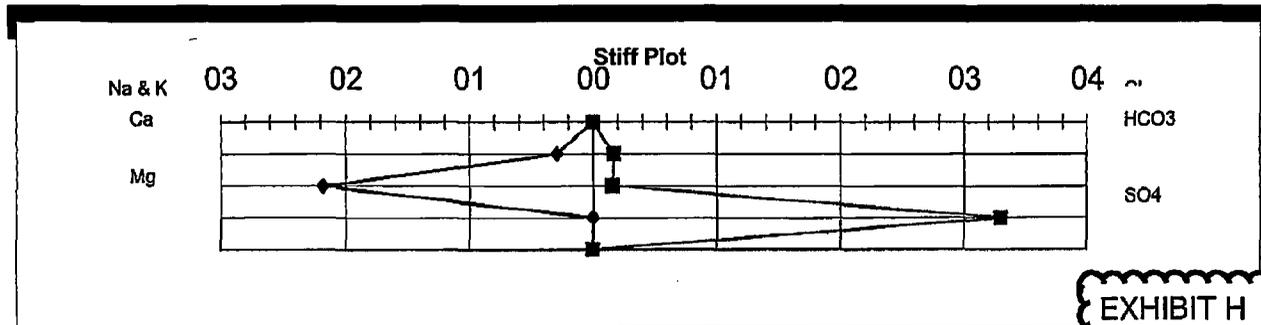


EXHIBIT H



# BJ SERVICES

## Farmington District Lab

### Water Analysis Report

Test # #9

#### Customer/Well Information

<b>Company:</b> ANGELINA WELL	<b>Date:</b> 5/14/09
<b>Well Name:</b> SOUTH HOSPAH#9	<b>Prepared for:</b> ALLEN EAKER
<b>Location:</b> 00-000-00000	<b>Submitted by:</b> ALLEN EAKER
<b>State:</b> San Juan County, NM	<b>Prepared by:</b> RON VALDEZ
<b>Formation:</b> ENTRADA SAND ZONE	<b>Water Type:</b> PRODUCED
<b>Depth:</b> 0	

#### Background Information

**Reason for Testing:** routine

**Completion type:** \_\_\_\_\_

**Well History:** \_\_\_\_\_

**Comments:** run#2

#### Sample Characteristics

<b>Sample Temp:</b> 63 (°F)	<b>Viscosity:</b> 1cP
<b>pH:</b> 7.65	<b>Color:</b> GREY
<b>Specific Gravity:</b> 1.010	<b>Odor:</b> HYDROCARBON
<b>S.G. (Corrected):</b> 1.011 @ 60 °F	<b>Turbidity:</b> NONE
<b>Resistivity (Meas.):</b> 3.20 Ω-m	<b>Filtrates:</b> SLIGHT

#### Sample Composition

CATIONS	mg/l	me/l	ppm
Sodium (calc.)	691	30.0	684
Calcium	441	22.0	437
Magnesium	< .5	---	----
Barium	0	0.0	0
Potassium	3	0.1	3
Iron	0.00	0.0	0.00

ANIONS	mg/l	me/l	ppm
Chloride	400	11.3	396
Sulfate	1900	39.6	1881
Hydroxide	0	0.0	0
Carbonate	< 1	---	----
Bicarbonate	85	1.4	85

SUMMARY	mg/l	me/l	ppm
Total Dissolved Solids(calc.)	3517		3482
Total Hardness as CaCO3	1102	22.0	1091

#### Scaling Tendencies

CaCO3 Factor	37669.94	Calcium Carbonate Scale Probability --> REMOTE
CaSO4 Factor	838090	Calcium Sulfate Scale Probability -----> REMOTE

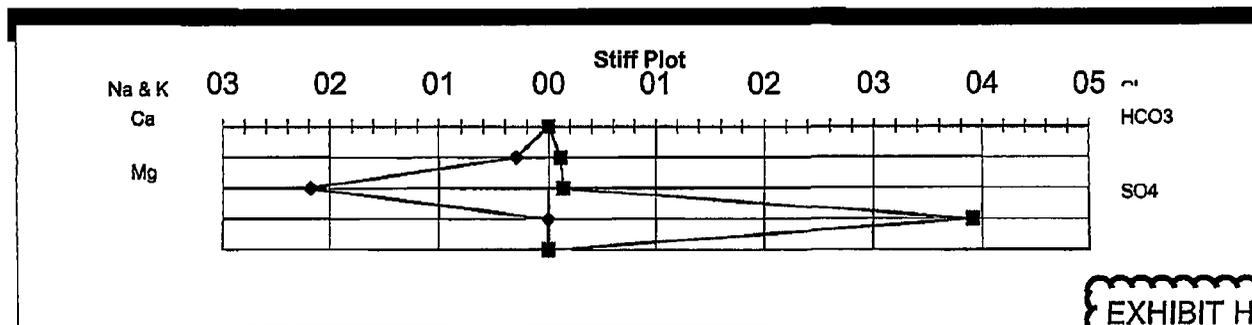


EXHIBIT H

Sep 10 08 04:47p J-Environmental Services  
 Sep 09 08 01:54p Micro-Bac  
 918-499-1534  
 512-310-8900  
 p.2  
 P.3

## Water Analysis Results

Log # #080406  
 Sample ID Hospab Prod Water

Client J. Environmental Services  
 Address

Sampled:  
 Depth:  
 BHT:

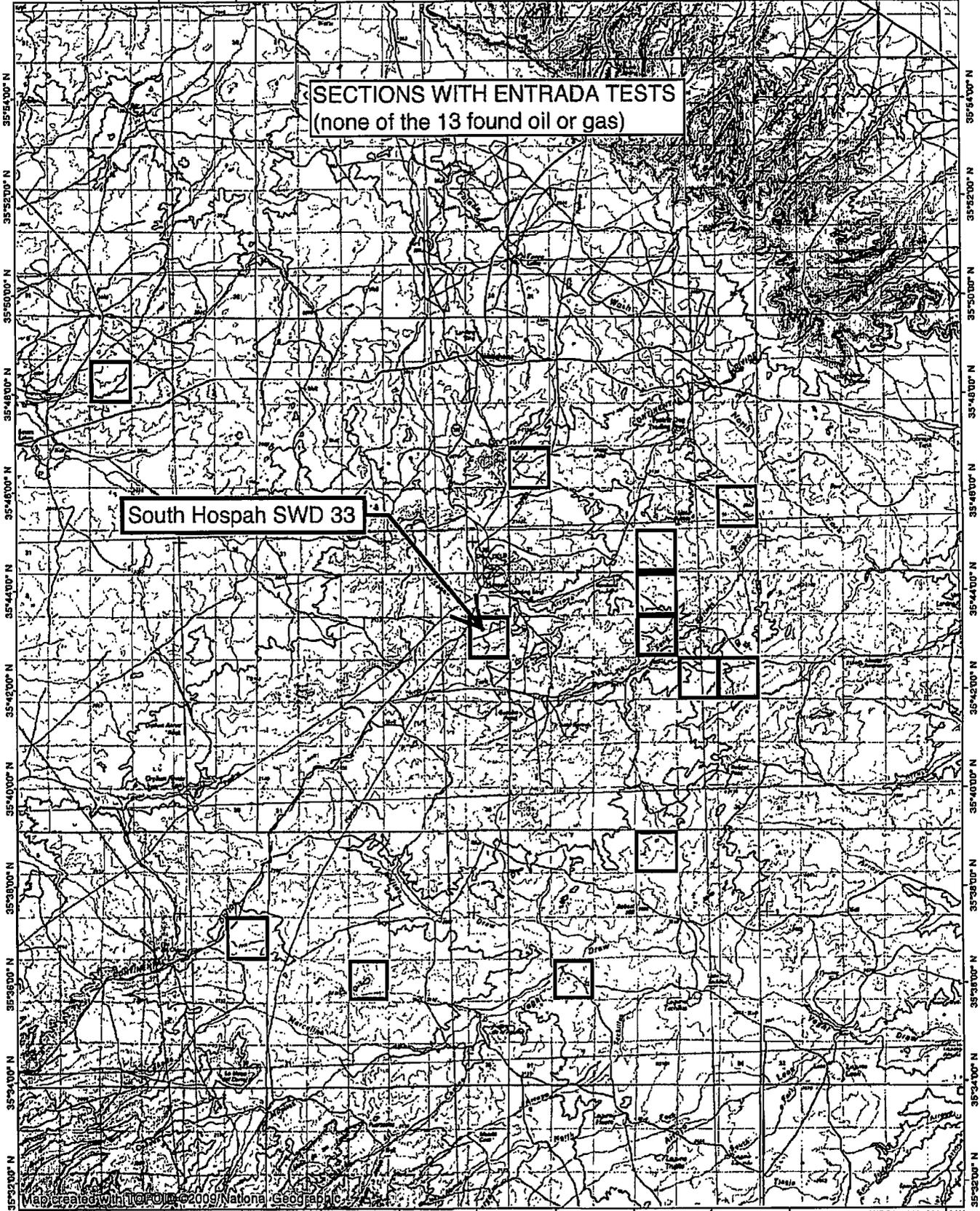
Tested: Sept. 5, 2008  
 By: JUR



mg/L		mg/L meq/L		MILLIEQUIVALENTS							
CO2 (dissolved)	100	Barium (Ba)	0.00	0.00	Cations		Anions				
O2 (dissolved)	ND	Calcium (Ca)	14.00	0.70	Ca	0.70	HCO3	11.80			
H2S	69.75	Iron (Fe)	8.25	0.29	Mg	1.50	SO4	10.93			
Suspended Solids (TSS)	84	Magnesium (Mg)	18.23	1.50	Na	32.10	Cl	11.57			
Total Dissolved Solids (TDS)	2434	Sodium (Na)-calc.	738.05	32.10	Ba	0.00					
pH	8.97	Strontium (Sr)	nd	nd	Saturation Values Dist. Water 20 C						
Sp. Gravity	1.0010	Bicarbonate(HCO3)	720.00	11.80	CaCO3	13 mg/L					
Oil in Water	ND	Chloride (Cl)	410.00	11.57	CaSO4 2H2O	2090 mg/L					
Probable Mineral Composition		Sulfate (SO4)	525.00	10.93	BaSO4	2.4 mg/L					
Compound	meq/L	mg/L	Alkalinity (CaCO3)		The scaling indices indicate the tendency for the sampled water to form scale. The formation of CaCO3 is likely if the index is positive. The formation of CaSO4 is likely if the Sat. Conc. is less than that of the probable mineral composition for CaSO4.						
BaSO4	0.00	0.00	Phenolphthalein 0.01								
Ca(HCO3)2	0.70	56.61	Methyl Orange 720.00								
CaSO4	0.00	0.00	Hardness (CaCO3)								
CaCl2	0.00	0.00	Total 110		Calcium Carbonate Scaling Index						
Mg(HCO3)2	1.50	109.74	Calcium 35		Temperature (F)		Scaling Index		Calcium Sulfate Scaling Index		
MgSO4	0.00	0.00	Total 110		70		Negative		Temperature (F)		
MgCl2	0.00	0.00	Total 110		90		Negative		Sat. Conc. (mg/L)		
NaHCO3	9.60	806.61	Total 110		110		Negative		70		
Na2SO4	10.93	776.69	Total 110		140		Negative		90		
NaCl	11.57	676.15	Total 110		180		Negative		110		
				Total 110		180		Negative		140	
				Total 110		180		Negative		180	

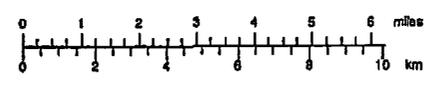
Laboratory testing performed by MicroBac International, Inc.

107°55'00" W 107°53'00" W 107°51'00" W 107°49'00" W 107°47'00" W 107°45'00" W 107°43'00" W 107°41'00" W 107°39'00" W 107°37'00" W WGS84 107°33'00" W



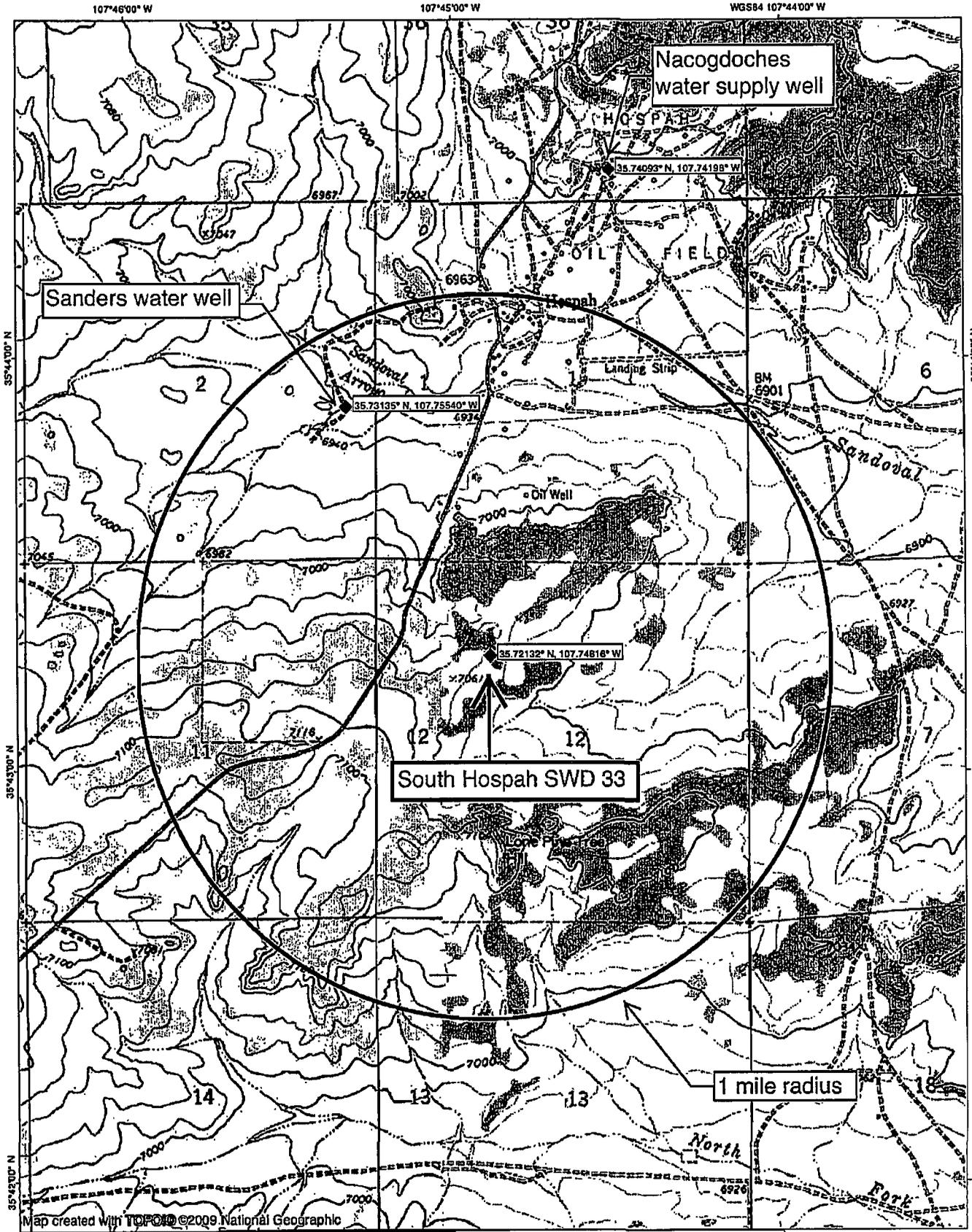
107°55'00" W 107°53'00" W 107°51'00" W 107°49'00" W 107°47'00" W 107°45'00" W 107°43'00" W 107°41'00" W 107°39'00" W 107°37'00" W WGS84 107°33'00" W

Map created with TOPOI © 2009 National Geographic



**EXHIBIT I**

TN:MN  
9.5"  
0/25/11



Map created with TOPOI ©2009 National Geographic

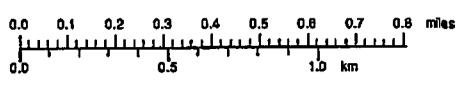


EXHIBIT J

TN+MN  
9.5'  
10/25/11

## Water Analysis Results

Log # #080407  
 Sample ID Hospah Fresh Water

Client J. Environmental Services  
 Address

Sampled:  
 Depth:  
 BHT:

Tested: Sept. 5, 2008  
 By: JUR

mg/L			mg/L	meq/L	MILLIEQUIVALENTS		
CO2 (dissolved)	66		Barium (Ba)	0.00	0.00	Cations	Anions
O2 (dissolved)	ND		Calcium (Ca)	8.00	0.40	Ca	0.40
H2S	0.085		Iron (Fe)	0.00	0.00	Mg	0.30
Suspended Solids (TSS)	8		Magnesium (Mg)	3.65	0.30	Na	23.48
Total Dissolved Solids (TDS)	1798		Sodium (Na)-calc.	539.84	23.48	Ba	0.00
pH	8.53		Strontium (Sr)	nd	nd	Saturation Values Dist. Water 20 C.	
Sp. Gravity	1.0000		Bicarbonate(HCO3)	462.00	7.57	CaCO3	13 mg/L
Oil in Water	ND		Chloride (Cl)	35.00	0.99	CaSO4 2H2O	2090 mg/L
Probable Mineral Composition			Sulfate (SO4)	750.00	15.62	BaSO4	2.4 mg/L
Compound	meq/L	mg/L	Alkalinity (CaCO3)			The scaling indices indicate the tendency for the sampled water to form scale. The formation of CaCO3 is likely if the index is positive. The formation of CaSO4 is likely if the Sat. Conc. is less than that of the probable mineral composition for CaSO4.	
BaSO4	0.00	0.00	Phenolphthalein	0.01			
Ca(HCO3)2	0.40	32.35	Methyl Orange	462.00			
CaSO4	0.00	0.00	Hardness (CaCO3)			Calcium Carbonate Scaling Index	
CaCl2	0.00	0.00	Total	35		Temperature (F)	
Mg(HCO3)2	0.30	21.95	Calcium	20		Scaling Index	
MgSO4	0.00	0.00	Calcium Carbonate Scaling Index			Calcium Sulfate Scaling Index	
MgCl2	0.00	0.00	Temperature (F)	Scaling Index		Temperature (F)	Sat. Conc. (mg/L)
NaHCO3	6.87	577.33	70	Negative		70	#N/A
Na2SO4	15.62	1109.56	90	Negative		90	#N/A
NaCl	0.99	57.72	110	Negative		110	#N/A
			140	Negative		140	#N/A
			180	Negative		180	#N/A

Sanders well

EXHIBIT J

Laboratory testing performed by MicroBac International, Inc.

**Hall Environmental Analysis Laboratory, Inc.**

Nacogdoches'  
water supply well

Date: 05-Oct-11  
Analytical Report

CLIENT: Permits West Client Sample ID: Hospah WSW  
Lab Order: 1109B70 Collection Date: 9/27/2011 11:40:00 AM  
Project: Hospah Date Received: 9/29/2011  
Lab ID: 1109B70-01 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>OIL AND GREASE</b>						Analyst: JB
Oil & Grease, Total Recoverable	640	100		mg/L	100	10/4/2011
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>						Analyst: KS
Total Dissolved Solids	654	20.0		mg/L	1	10/4/2011 7:03:00 PM

EXHIBIT J

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

# PERMITS WEST, INC.

PROVIDING PERMITS for LAND USERS

37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

October 31, 2011

BLM  
1235 LaPlata Highway  
Farmington, NM 87401

Nacogdoches Oil and Gas, Inc. is applying (see attached application) to convert its South Hospah 33 oil well to a salt water disposal well. As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: South Hospah SWD 33 Total Depth: 3,900'

Proposed Disposal Zone: Entrada (from 3,812' to 3,900')

Location: 1340' FNL & 1710' FWL Sec. 12, T. 17 N., R. 9 W.,  
McKinley County, NM on BLM lease NMNM-012335

Approximate Location: ≈40 air miles north of Grants, NM

Applicant Name: Nacogdoches Oil and Gas, Inc. (936) 560-4747

Applicant's Address: P. O. Drawer 632418, Nacogdoches, TX 75963

Submittal Information: Application for a salt water disposal well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,



Brian Wood

2000 907E ED00 NAC3 1 1 1

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Sent To: BLM

Street, Apt. No.,  
or PO Box No.

City, State, ZIP+4

PS Form 3890, August 2006

EXHIBIT K

# PERMITS WEST, INC.

PROVIDING PERMITS for LAND USERS

37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

October 31, 2011

BC&D Oil & Gas Corp.  
P. O. Box 302  
Hobbs, NM 88241-0302

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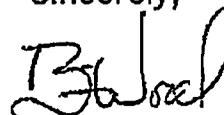
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Sincerely,



Brian Wood

EXHIBIT K

RTFN QNTF ENNN NACC JNNJ

U.S. Postal Service™	
<b>CERTIFIED MAIL™ RECEIPT</b>	
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Postage	\$ 5.75
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Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 8.30
Sent To	BC&D
Street, Apt. No., or PO Box No.	
City, State, ZIP+4	
PS Form 3800, August 2006 See Reverse for Instructions	

**PERMITS WEST**, INC.  
 PROVIDING PERMITS for LAND USERS  
 37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

October 31, 2011

R & R Royalty Ltd.  
 500 N. Shoreline Blvd., Suite 322  
 Corpus Christi, TX 78401

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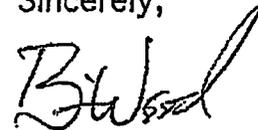
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Sincerely,



Brian Wood

EXHIBIT K

0325 9076 3106 0325

U.S. Postal Service™	
<b>CERTIFIED MAIL™ RECEIPT</b>	
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Total Postage & Fees	\$ 6.63
Sent To R & R	
Street, Apt. No., or PO Box No.	
City, State, ZIP+4	

**Affidavit of Publication**

STATE OF NEW MEXICO

) SS

COUNTY OF MCKINLEY

REBECCA PAQUIN being duly sworn upon oath, deposes and says:

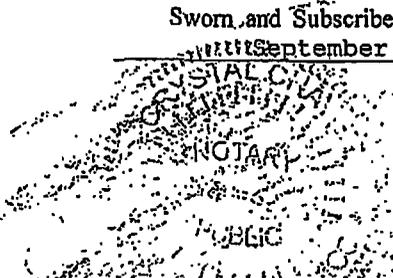
As LEGAL CLERK of The Independent, a newspaper published in and having a general circulation in McKinley County, New Mexico and in the City of Gallup, New Mexico and having a general circulation in Cibola County, New Mexico and in the City of Grants, New Mexico and having a general circulation in Apache County, Arizona and in the City of St. Johns and in the City of Window Rock, Arizona therein: that this affiant makes the affidavit based upon personal knowledge of the facts herein sworn to. That the publication, a copy of which is hereto attached was published in said newspaper during the period time of publication and said notice was published in the newspaper proper, and not in a supplement thereof, for One Time, the first publication being on the \_\_\_\_\_ day of \_\_\_\_\_, 2011, the second publication being on the \_\_\_\_\_ day of \_\_\_\_\_, 2011, the third publication being on the \_\_\_\_\_ day of \_\_\_\_\_, 2010,

\_\_\_\_\_ and the last publication being on the 10<sup>th</sup> day of September, 2011. That such newspaper, in which such notice or advertisement was published, is now and has been at all times material hereto, duly qualified for such purpose, and to publish legal notices and advertisements within the meaning of Chapter 12, of the statutes of the State of New Mexico, 1941 compilation.

Rebecca Paquin  
Affiant.

Sworn and Subscribed to before me this 14<sup>th</sup> day of September, A.D., 2011.

Cynthia Chang  
Notary Public



My commission expires: June 25<sup>th</sup>, 2014

**LEGAL NOTICE**  
Gallup, McKinley County, New Mexico.  
Nacogdoches Oil & Gas, Inc. is applying for a saltwater disposal well. The South Hoshpah 33 will be deepened and converted from an injection well to dispose into the Entada from 13200' to 13500'. It is located at 1340 FNL & 1710 FWL Secs. 12, T17N, R9W, McKinley County. The well is 23 miles east-northeast of Crownpoint. Maximum disposal rate will be 7,500 bwpd. Maximum injection pressure will be 750 psi. Interested parties must file objections or requests for hearing with the NM Oil Conservation Division, 1220 South Saint Francis Dr., Santa Fe, NM 87505 within 15 days. Additional information can be obtained by contacting: Brian Wood, Permits West, Inc. 37 Verano Loop, Santa Fe, NM 87508. Phone: (505) 466-8120.  
Legal # 12873 Published in The Independent September 10, 2011.

EXHIBIT L

**Jones, William V., EMNRD**

---

**From:** Jones, William V., EMNRD  
**Sent:** Tuesday, November 08, 2011 7:48 PM  
**To:** 'brian wood'  
**Cc:** Ezeanyim, Richard, EMNRD; Sanchez, Daniel J., EMNRD; Perrin, Charlie, EMNRD; 'Jay\_Spielman@blm.gov'  
**Subject:** Disposal application from Nacogdoches Oil and Gas, Inc.: South Hospah SWD #33 30-031-20124 Entrada from 3812 to 3900 feet

Hello Mr. Brian,

Will the BLM require any other logs on the deepened hole other than the CBL? Or does Nacogdoches plan to run any others? (The OCD may require at least minimal logging.)

Do you know how far north of Highway I-40 this well is?

Is Nacogdoches willing to limit this well to oil field waste waters of less than 3500 TDS?

I did not see any Rule 5.9 explanation in the application – but our web site shows about 5 single-well bonds needed and 67 of 180 wells still inactive for this operator. I seem to remember the previous Entrada SWD well (SWD-1211 issued 4/7/10) as being necessary to reduce the number of inactive wells. Has it helped or is it helping?

Please let me know whenever there is an agreed compliance in place to allow us to release SWD permits for Nacogdoches – all I see is the bad news on the web site.

As always, thank you for the thorough application,

William V Jones, P.E.  
Engineering, Oil Conservation Division  
1220 South St. Francis Drive, Santa Fe, NM 87505  
Tel 505.476.3448 ~ Fax 505.476.3462



## Jones, William V., EMNRD

---

**From:** brian wood [brian@permitswest.com]  
**Sent:** Wednesday, November 09, 2011 7:21 AM  
**To:** Jones, William V., EMNRD  
**Cc:** MIKE ALLEN; JIM BRUCE  
**Subject:** Re: Disposal application from Nacogdoches Oil and Gas, Inc.: South Hospah SWD #33 30-031-20124 Entrada from 3812 to 3900 feet

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4. I will check with Nacogdoches on the bonds, etc.

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Engineering, Oil Conservation Division  
1220 South St. Francis Drive, Santa Fe, NM 87505  
Tel 505.476.3448 ~ Fax 505.476.3462

<image001.jpg>

Thanks Brian,  
What is the CDL?

Nothing was attached... I assume you mean the water analysis attached to your original application,

Regards,

Will Jones  
New Mexico  
Oil Conservation Division  
Images Contacts

---

**From:** brian wood [<mailto:brian@permitswest.com>]  
**Sent:** Monday, November 14, 2011 1:58 PM  
**To:** Jones, William V., EMNRD  
**Subject:** Nacogdoches South Hospah 33 (30-031-20124)

Nacogdoches will run CDL and IEL logs across the Dakota & Entrada.

Nacogdoches will accept the 3,500 TDS limit.  
Their current combined water stream is 2,434 TDS.  
See attached analysis.

We are checking on the compliance question.

<image002.jpg>

**Jones, William V., EMNRD**

**From:** brian wood [brian@permitswest.com]  
**Sent:** Monday, November 14, 2011 3:04 PM  
**To:** Jones, William V., EMNRD  
**Subject:** Re: Nacogdoches South Hospah 33 (30-031-20124)

Compensated Density Log  
 There was, and is, a jpg. attached.  
 If your firewall strips out the attachment, it is the last page of Exhibit H.

**Water Analysis Results**

**Log #** #080406  
**Sample ID** Hospah Prod Water

**Client** J. Environmental Services  
**Address**

**Sampled:**  
**Depth:**  
**BHT:**

**Tested:** Sept. 5, 2008  
**By:** JUR

			mg/L	meq/L	MILLIEQUIVALENTS			
			mg/L	meq/L	Cations	Anions		
CO2 (dissolved)	100		Barium (Ba)	0.00	0.00	Ca	0.70	HCO3
O2 (dissolved)	ND		Calcium (Ca)	14.00	0.70	Mg	1.50	SO4
H2S	69.75		Iron (Fe)	8.25	0.29	Na	32.10	Cl
Suspended Solids (TSS)	84		Magnesium (Mg)	18.23	1.50	Ba	0.00	
Total Dissolved Solids (TDS)	2434		Sodium (Na)-calc.	738.05	32.10	Saturation Values Dist. Water 20 C		
pH	8.97		Strontium (Sr)	nd	nd	CaCO3	13 mg/L	
Sp. Gravity	1.0010		Bicarbonate(HCO3)	720.00	11.80	CaSO4 2H2O	2090 mg/L	
Oil in Water	ND		Chloride (Cl)	410.00	11.57	BaSO4	2.4 mg/L	
Probable Mineral Composition			Sulfate (SO4)	525.00	10.93	The scaling indices indicate the tendency for the sampled water to scale. The formation of CaCO3 is likely if the index is positive. The formation of CaSO4 is likely if the Sat. Conc is less than that of the probable mineral composition for CaSO4.		
Compound	meq/L	mg/L	Alkalinity (CaCO3)					
BaSO4	0.00	0.00	Phenolphthalein	0.01				
Ca(HCO3)2	0.70	56.61	Methyl Orange	720.00				
CaSO4	0.00	0.00	Hardness (CaCO3)					
CaCl2	0.00	0.00	Total	110				
Mg(HCO3)2	1.50	109.74	Calcium	35				
MgSO4	0.00	0.00	Calcium Carbonate Scaling Index		Calcium Sulfate Scaling Index			
MgCl2	0.00	0.00	Temperature (F)	Scaling Index	Temperature (F)	Sat. Conc. (u)		
NaHCO3	9.60	806.61	70	Negative	70	#N/A		
Na2SO4	10.93	776.69	90	Negative	90	#N/A		
NaCl	11.57	676.15	110	Negative	110	#N/A		
			140	Negative	140	#N/A		
			180	Negative	180	#N/A		

Laboratory testing performed by MicroBac International, Inc.

On Nov 14, 2011, at 3:02 PM, Jones, William V., EMNRD wrote:

918-499-1534 p.2  
 512-310-8800 p.3  
 Sep 10 08 04:47p J-Environmental Services  
 Sep 09 08 01:54p Micro-Bac

**Jones, William V., EMNRD**

---

**From:** Swazo, Sonny, EMNRD  
**Sent:** Tuesday, May 22, 2012 6:14 PM  
**To:** Jones, William V., EMNRD  
**Cc:** Sanchez, Daniel J., EMNRD  
**Subject:** RE: Disposal application from Nacogdoches Oil and Gas, Inc.: South Hospah SWD #33 30-031-20124 Entrada from 3812 to 3900 feet

Will:

There was an ACOI but you will have to check with the operator as we already told David Burns and the Nacogdoches person what it needed to do (i.e., submit the ACOI with any application so we know). Check with Daniel is any questions.

Thanks,

Sonny

---

**From:** Jones, William V., EMNRD  
**Sent:** Tuesday, May 22, 2012 1:58 PM  
**To:** Perrin, Charlie, EMNRD; Sanchez, Daniel J., EMNRD  
**Cc:** Swazo, Sonny, EMNRD  
**Subject:** FW: Disposal application from Nacogdoches Oil and Gas, Inc.: South Hospah SWD #33 30-031-20124 Entrada from 3812 to 3900 feet

Charlie and Daniel:

Here below is the only correspondence. Nothing else was received by me from Brian Wood or from Nacogdoches. If an ACOI is in place and Rule 5.9 is OK, let me know and I could proceed to work on this application.

Have a cool day,

Will

---

**From:** brian wood [<mailto:brian@permitswest.com>]  
**Sent:** Wednesday, November 09, 2011 7:21 AM  
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Engineering, Oil Conservation Division  
1220 South St. Francis Drive, Santa Fe, NM 87505  
Tel 505.476.3448 ~ Fax 505.476.3462

<image001.jpg>

**Injection Permit Checklist** (11/18/2010)

WFX PMX SWD 134H Permit Date 6/25/12 UIC Qtr (A)(M)(J)

# Wells 1 Well Name(s): SOUTH HOSPAN SWD#33

API Num: 30-031-20124 Spud Date: 9/7/1969 New/Old: 0 (UIC primacy March 7, 1982)

Footages 1340 FUL/170 FUL Unit F Sec 12 Tsp 17N Rge 9W County MCKINLEY

General Location:

Operator: Nacogdoches OIL and Gas, INC. Contact BRIAN WOOD

OGRID: 256689 RULE 5.9 Compliance (Wells) 67/180 (Finan Assur) 5 IS 5.9 OK? X

Well File Reviewed ✓ Current Status: WUW in DEFUNCT UNIT

Planned Work to Well: Drill ~~well~~, Run 4 1/2" CMT to surf.

Diagrams: Before Conversion ✓ After Conversion ✓ Elogs in Imaging File: will Run CBL

Well Details:		Sizes	Setting	Stage	Cement	Determination
		Hole.....Pipe	Depths	Tool	Sx or Cf	Method
New <u>Existing</u> <u>Surface</u>	<u>13 3/4</u> <u>13 3/4</u>	<u>61</u>	<u>-</u>	<u>70</u>	<u>CIRC</u>	
New <u>Existing</u> <u>Interm</u>	<u>9 7/8</u> <u>7</u>	<u>1647</u>	<u>-</u>	<u>125</u>	<u>1250 (CBL)</u>	
<u>New</u> <u>Existing</u> <u>LongSt</u>	<u>6 1/4</u> <u>4 1/2</u>	<u>3812'</u>		<u>469</u>	<u>CIRC (CBL)</u>	
New <u>Existing</u> <u>Liner</u>						
<u>New</u> <u>Existing</u> <u>OpenHole</u>	<u>4 1/2"</u>	<u>3812'-3900'</u>				

Depths/Formations:	Depths, Ft.	Formation	Tops?
Formation(s) Above	<u>UPPER HOSPAN</u>	<u>1570</u>	<u>✓</u>
	<u>Lower HOSPAN</u>	<u>1648</u>	<u>✓</u>
	<u>DATA</u>	<u>2587</u>	<u>✓</u>
<u>(approx)</u> Injection TOP:	<u>3812</u>	<u>ENTRADA</u>	<u>762</u>
Injection BOTTOM:	<u>3900</u>	<u>"</u>	<u>23/8</u>
Formation(s) Below		<u>Bottom of JE</u>	

*S. HOSPAN UNIT Has Been TERMINATED TOP of JE*

Capitan Reef? (Potash? Noticed?) (WIPP? Noticed?) Salado Top/Bot Cliff House?

Fresh Water: Depths: < 585 Formation RLD. Wells? 1 Analysis? ✓ Affirmative Statement ✓

Disposal Fluid Analysis? Sources: Nacogdoches own wells only

Disposal Interval: Analysis? Production Potential/Testing:

Notice: Newspaper Date 9/10/11 Surface Owner BLM (10/31/11) Mineral Owner(s)

RULE 26.7(A) Affected Persons: NO OTHERS BC D OIL & Gas Corp

AOR: Maps? ✓ Well List? ✓ Producing in Interval? NO Wellbore Diagrams? ✓

.....Active Wells 1 Repairs? - Which Wells? -

.....P&A Wells 0 Repairs? - Which Wells? - *See SWD-1211 (4/7/10)*

Issues: LIMIT TO waters < 35 TDS Request Sent - Reply: -