

2005 MAR 8 PM 2 27

FORM APPROVED
OMB No. 1004-0136
Expires January 31, 2004

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMSF-079065
1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other SWD <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator Lance Oil & Gas Company, Inc.		7. If Unit or CA Agreement, Name and No. N/A
3a. Address Box 70, Kirtland, NM 87417		8. Lease Name and Well No. Salty Dog #6
3b. Phone No. (include area code) 598-5601		9. API Well No. 30-045-32943
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 515' FNL & 1300' FWL At proposed prod. zone Same		10. Field and Pool, or Exploratory SWD-Entrada
14. Distance in miles and direction from nearest town or post office* 2 miles SW of Farmington, New Mexico		11. Sec., T., R., M., or Blk. and Survey or Area Sec. 19-T29N-R13W, NMPM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 515'	16. No. of Acres in lease 1,470.81	17. Spacing Unit dedicated to this well N/A SWD-Entrada
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 250'	19. Proposed Depth 7,200'	20. BLM/BIA Bond No. on file BLM Nationwide # 965001792
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 5317 GL	22. Approximate date work will start* Upon approval	23. Estimated duration 4 weeks

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature 	Name (Printed/Typed) Paul Lehrman	Date 3-7-05
Title Sr. Landman		
Approved by (Signature) 	Name (Printed/Typed) M. Mantle	Date 5-9-05
Title AFM	Office FFO	

Application approval does not warrant or certify the the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

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

*(Instructions on reverse)

Hold for SWD order

NMOCB

DISTRICT I
P.O. Box 1980, Hobbs, N.M. 88241-1980

DISTRICT II
811 South First, Artesia, N.M. 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-32943	² Pool Code 96436	³ Pool Name SWD Entrada
⁴ Property Code 300856	⁵ Property Name SALTY DOG SWD	⁶ Well Number 6
⁷ GRID No. 229938	⁸ Operator Name LANCE OIL & GAS COMPANY, INC.	⁹ Elevation 5317

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
C	19	29 N	13 W		515	NORTH	1300	WEST	SAN JUAN

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

¹² Dedicated Acres N/A	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

	¹⁶	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Signature: Paul Lehrman Printed Name: Sr. Landman Title: Date: 3-7-05
	¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Date of Survey: 2/7/05 Signature and Seal of Professional Surveyor: Louis Pence Certificate Number: 102605	

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

Form C-103

May 27, 2004

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

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-045-
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> SWD		5. Indicate Type of Lease STATE <input type="checkbox"/> FEDERAL <input type="checkbox"/> NMSE <input type="checkbox"/>
2. Name of Operator Lance Oil & Gas Company, Inc.		6. State Oil & Gas Lease No. 079065
3. Address of Operator Box 70, Kirtland, NM 87417		7. Lease Name or Unit Agreement Name Salty Dog
4. Well Location Unit Letter C : 515 feet from the North line and 1300 feet from the West line Section 19 Township 29N Range 13W NMPMSan JuanCounty NM		8. Well Number #6
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 5317 GR		9. OGRID Number 229938
Pit or Below-grade Tank Application <input checked="" type="checkbox"/> or Closure <input type="checkbox"/>		10. Pool name or Wildcat
Pit type Drilling Depth to Groundwater >100' Distance from nearest fresh water well >1000' Distance from nearest surface water >1000'		
Pit Liner Thickness: 12 mil Below-Grade Tank: Volume bbls; Construction Material Impervious Plastic		

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
OTHER: <input type="checkbox"/>		OTHER: Pit Permit <input checked="" type="checkbox"/>	

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.

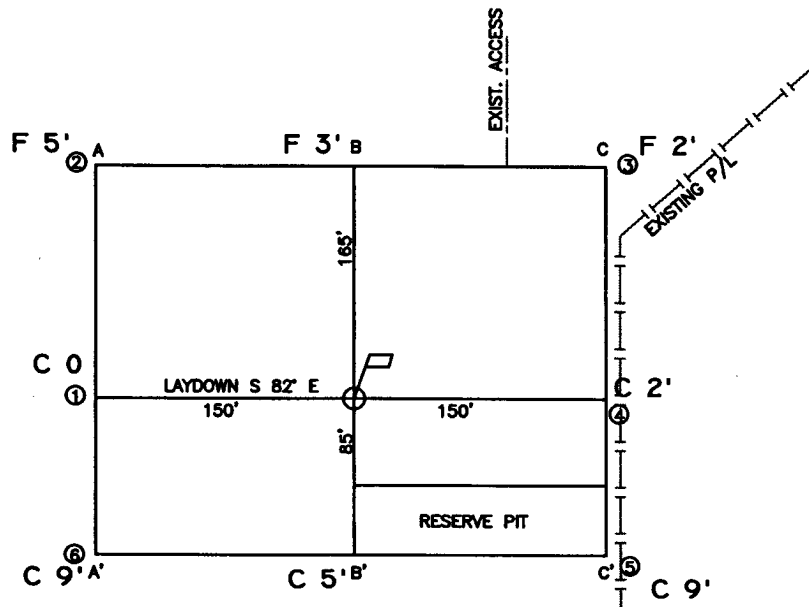
Application for Pit Permit pursuant to NMOCD Rule 50.

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 _____ TITLE Sr. Landman DATE 3-7-05

Type or print name Paul Lehrman E-mail address: plehrman@westerngas.com Telephone No. 598-5601
For State Use Only xt. 57

APPROVED BY: _____ TITLE DEPUTY OIL & GAS INSPECTOR, DIST. IV DATE MAY 11 2005
Conditions of Approval (if any): _____



ELEVATION A-A'

ELEVATION	5340	5330	5320	5310	5300

B-B'

ELEVATION	5340	5330	5320	5310	5300

C-C'

ELEVATION	5340	5330	5320	5310	5300

LEASE: SALTY DOG #6

FOOTAGE: 515' FNL, 1300' FWL

SEC. 19 TWN. 29-N RNG. 13-W N.M.P.M.

LATITUDE: 36°43'04.0" LONGITUDE: 108°14'53.0"

ELEVATION: 5317

LANCE OIL & GAS COMPANY, INC.
KIRTLAND, NEW MEXICO

SURVEYED: 2/7/05

REV. DATE:

APP. BY L.P.

DRAWN BY: T.G.

DATE DRAWN: 2/8/05

FILE NAME: 5544C02

UNITED
FIELD SERVICES INC.

P.O. BOX 3651
FARMINGTON, NM 87499
OFFICE: (505) 334-0408

Lance Oil & Gas Company, Inc.
Salty Dog #6 Disposal Well
515' FNL & 1300' FWL
Section 19, T29N, R13W, NMPM
San Juan County, New Mexico

DRILLING PROGRAM

1. ESTIMATED FORMATION TOPS:

<u>Formation</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Subsea Elevation</u>
Kirtland Shale	Surface	5,317'	+5,317'
Fruitland Fm	425'	437'	+4,892'
Fruitland Coal	1000'	1012'	+4,317'
Pictured Cliffs	1025'	1037'	+4,292'
Lewis Shale	1175'	1187'	+4,142'
Cliff House	2,670'	2,682'	+2,647'
Menefee	2,715'	2,727'	+2,602'
Point Lookout	3,535'	3,547'	+1,782'
Upper Mancos Shale	3,820'	3,832'	+1,497'
Gallup	4,756'	4,768'	+ 561'
Greenhorn	5,537'	5,549'	- 220'
Graneros	5,595'	5,607'	- 278'
Dakota	5,641'	5,753'	- 324'
Morrison	5,875'	5,887'	- 558'
Bluff	6,540'	6,552'	-1,223'
Summerville	6,655'	6,667'	-1,338'
Todlito	6,750'	6,762'	-1,433'
Entrada	6,780'	6,792'	-1,463'
Chinle	6,905'	6,972'	-1,588'
Total Depth (TD)*	7,200'	7,212'	-1,883'

*All elevations reflect the ungraded ground level of 5,317'

2. NOTABLE ZONES:

<u>Gas Zones</u>	<u>Water Zones</u>	<u>Coal Zones</u>
Fruitland	Fruitland Coal/Pictured Cliffs	Fruitland Coal
Pictured Cliffs	Cliff House	Menefee
Menefee	Menefee	
Gallup	Pt. Lookout	
Dakota	Upper Mancos	

Water zones will be protected with casing, cement, and fresh water mud. Centralizers will be run through usable water zones to ensure that the casing is centralized through these zones. A minimum of three centralizers will be run on the Surface Casing. A minimum of 25 centralizers and 5 turbolizers will be run on production casing and will be based on API standards. A turbulizing centralizer will be run to ensure an adequate cement procedure across the Fruitland Coal and Pictured Cliffs formations.

3. PRESSURE CONTROL:

The drilling contract has not yet been awarded, thus the exact BOP model to be used is unknown. (A typical 2M model has been attached to this drilling program.) A Double ram with a rotating head will be used, rotating head will be installed if hole conditions warrant. All ram preventers and related equipment will be hydraulically tested at nipple up and after any use under pressure to 600 psi.

Blind rams will be hydraulically activated and checked for operational readiness each time pipe is pulled out of the hole. All checks of the BOP stack and equipment will be noted on the daily drilling report. BOP equipment will include a floor safety valve, kelly cock and choke manifold rated to 3000 psi. Maximum expected pressure is less than 1800 psi.

4. CASING AND CEMENTING PROGRAM:

<u>Hole Size</u>	<u>O.D.</u>	<u>Weight (lb/ft)</u>	<u>Grade</u>	<u>Age</u>	<u>GL Setting Depth</u>
12 ¼ "	8 5/8"	24	J-55	New	420'
7 7/8"	5 1/2"	15.5	J-55	New	7200'

Surface casing will be cemented to surface with ≈350 cu.ft. (≈296 sx) Class B containing ¼#/sk cello flake + 2% CaCl. Yield = 1.18 cu. ft/sk; slurry weight = 15.6 ppg. Volume is based on 100% excess. WOC = 6 hours. WOC will be per cementing company recommendations, but in not event will be less than 6 hours. Pressure test surface casing to 600 psi for 30 minutes.

Production casing hole will first be cleaned by circulating at least 150% of hole volume with drilling fluid to surface. Lead with ≈449 cu.ft. (≈229 sx) Halliburton light cement 65:35 Poz with 1/4#/sk cello flake, 5#/sx Gilsonite, 12.4 ppg, yield of 1.96. Tail in with ≈1181 cu.ft. (≈894 sx) 50:50 Poz with 2% CaCl, ¼#/sk cello flake, 5#/sx Gilsonite, 13.5 ppg, yield 1.32. Total cement volume is ≈1632 cu.ft. based on 30% excess and circulating to surface. Production casing will be cemented to surface.

5. MUD PROGRAM:

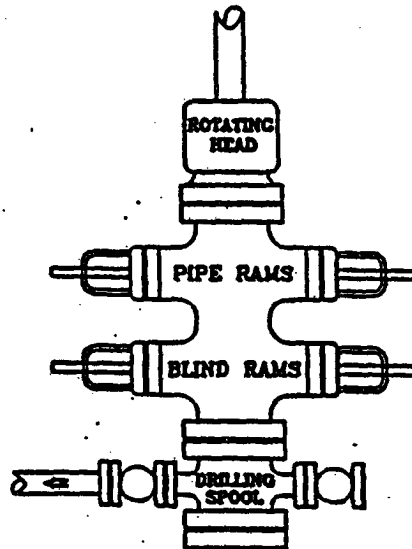
Surface casing hole will be drilled with a fresh water mud. Production casing hole will be drilled with a fresh water polymer mud. Weighting material will be drill solids or, if needed, barite. Maximum expected mud weight will be 9.3 ppg. Sufficient material to maintain mud properties, control lost circulation, and contain a blowout will be available at the well while drilling.

6. CORING, TESTING, & LOGGING:

No cores or DSTs are planned. An open hole SP/Induction log will be run. A cased hole suite of CCL/CBL/GR will be run from TD to surface. The water in the Entrada formation

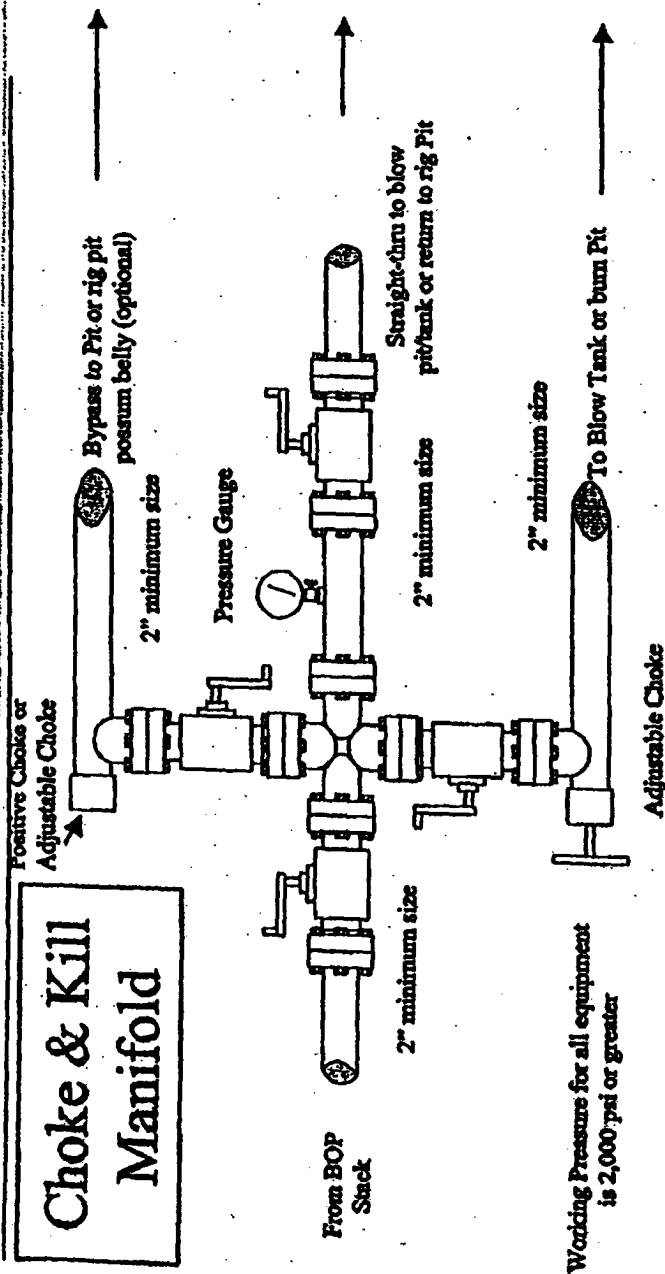
PRESSURE CONTROL

BOP ASSEMBLY



**Preventer and Spool to have a
7 1/6" Bore or larger and a 3000 PSI
or higher Pressure Rating**

Choke & Kill Manifold



PAGE 15

WELL SITE LAYOUT

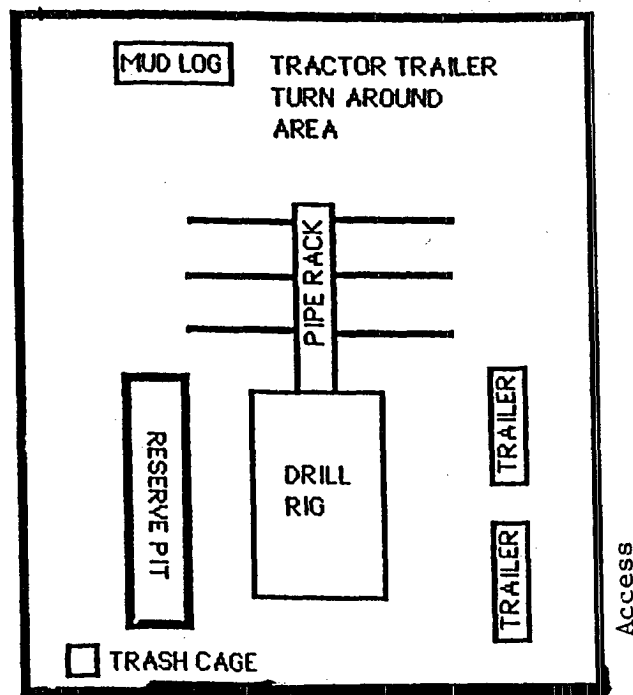
LANCE OIL & GAS COMPANY. INC.

SALTY DOG #6

515' FNL & 1300' FWL

SECTION 19, TOWNSHIP 29 NORTH, RANGE 13 WEST, NMPM

SAN JUAN COUNTY, NEW MEXICO



NORTH

WESTERN ARCHEOLOGICAL SERVICES

22491 Road D6, Cortez, Colorado 81321 Tele. (970) 564-9278 FAX 564-5819

February 15, 2005

Mr. Jim Copeland
San Juan District Archeologist
Bureau of Land Management
1235 La Plata Hwy.
Farmington, New Mexico 87401

Mr. Copeland:

Please find enclosed two copies of the archeological survey report for Lance Oil & Gas Co.'s Salty Dog #6 well site located on BLM lands in San Juan County, N.M. Archeological clearance for the project is recommended.

Sincerely,



Patrick Harden

COPY

Copy To:

Lance Oil & Gas Co.

NEGATIVE SURVEY AND MONITORING REPORT

1. BLM Report No. 2. BLM Review: (Initial & date) 3. NMCRIS No. 91814

4. Title of Report: Lance Oil & Gas Co.'s Salty Dog #6 Well Site
Author: Patrick Harden

5. Fieldwork Dates: Feb. 7, 2005 6. Report Date: Feb. 16, 2005

7. Consultant Name & Address
Field Supervisor: Patrick Harden
Org. Name: Western Archeological Services
Org. Address: 22491 Road D6, Cortez, Colo. 81321
Phone No.: 970-564-9278
8. Permit No.: 100-2920-03-P
9. Consultant Rpt. No. WAS 0508

10. Sponsor Name and Address
Ind. Responsible: Mr. Paul Lehrman
Org. Name: Lance Oil & Gas Co.
Org. Address: P.O. Box 70 Kirtland, N.M. 87417
Phone No.: 505-598-5601
11. Sponsor Project No.

COPY

12. Area of Effect 1.7 ac. BLM 1.7 ac. Other
Area Surveyed 1.7 ac.* BLM 1.7 ac. Other * area previously surveyed

13. Location (Map Attached)
a. State: New Mexico b. County: San Juan
c. Field Office: Farmington d. Land Status: BLM
e. Area: T 29N R 13W Sec. 19 NE 1/4 NW 1/4 NW 1/4
f. Footages: 515 FNL 1300 FWL g. 7.5" Map Name: Farmington South, N.M.

14. a. Description of Undertaking: one well pad 250 x 300' in size. Access to the well pad is via existing roads and open areas within the gravel pit.

b. Existing Data Review: files at the BLM office in Farmington and ARMS records were checked. One archeological site has been recorded within 1000' of the project area: LA115965 (BLM-01-40434), a small slab lined feature. The site has been removed during gravel pit operations. All of the well pad has been previously surveyed for gravel pit expansions: Cultural Resource Inventory "Consolidated Constructors Proposed Expansion of Existing Gravel Pit Along the San Juan River, South of Farmington San Juan County, New Mexico" (sic) (Hammack 1992); and "Cultural Resource Inventory Consolidated Constructors Five Mining Claim Locations Along the San Juan River, South of Farmington San Juan County, New Mexico" (sic) (Hammack 1994).

Lance Oil & Gas Co.

Salty Dog #6 Well Site

T29N, R13W, Section 19, San Juan County, N.M.

1:100,000 Scale Map

General Project Area

Farmington

Canyon

ALLEGOS

TN MN
11°

0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 miles
0 1 2 3 km

Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/Topo)

c. Area Environmental / Cultural Setting: The well pad is located in an abandoned area of a large gravel pit operation. A prominent reclaimed hill is along the north side of the pad. Vegetation on the pad is practically nonexistent, although some Russian Thistle is present. Surrounding vegetation is also thistle.

The cultural resources in the general project vicinity vary and may include small habitations to special use type sites with periods of occupation ranging from Archaic to Historic (including Navajo sites), although most sites are affiliated with an Anasazi occupation (ca. 500-1200 A.D.), which are primarily manifested by lithic and sherd scatters with or without use features. Site density is relatively low.

d. Field Methods: The project area has been previously surveyed. Also, the entire area is within abandoned or reclaimed areas of a large gravel pit and 100% of the proposed well pad and surrounding 500'+ area has been completely disturbed. The field investigations consisted of making sure that all project features were actually located in disturbed areas. The well was staked and flagged prior to the survey.

e. Artifacts Collected? no

15. Cultural Resource Findings (Isolates only)

a. Location / Identification of Each Resource:
none

b. Evaluation of Significance of Each Resource (above):
n/a

16. Management Summary (Recommendations):

archeological clearance recommended

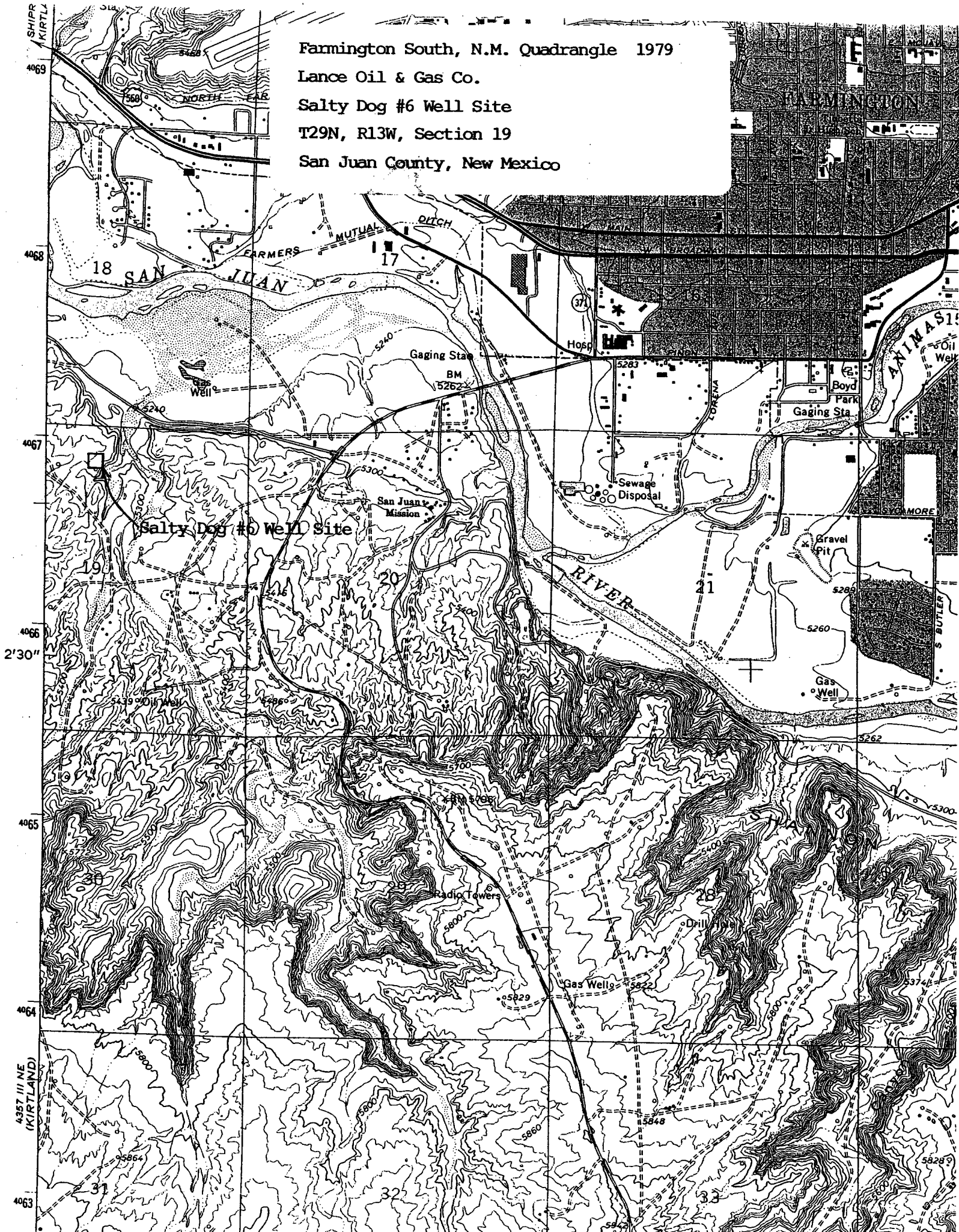
Farmington South, N.M. Quadrangle 1979

Lance Oil & Gas Co.

Salty Dog #6 Well Site

T29N, R13W, Section 19

San Juan County, New Mexico



DISTRICT I

P.O. Box 1880, Hobbs, N.M. 88241-1880

DISTRICT II

811 South First, Artesia, N.M. 88210

DISTRICT III

1000 Elc Brazos Rd., Aztec, N.M. 87410

DISTRICT IV

2040 South Pacheco, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, NM 87504-2088

Form C-102

Revised February 21, 1994

Instructions on back

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number		*Pool Code	*Pool Name
*Property Code	*Property Name SALTY DOG		*Well Number 6
*OGRD No.	*Operator Name LANCE OIL & GAS COMPANY, INC.		*Elevation 5317

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
C	19	29 N	13 W		515	NORTH	1300	WEST	SAN JUAN

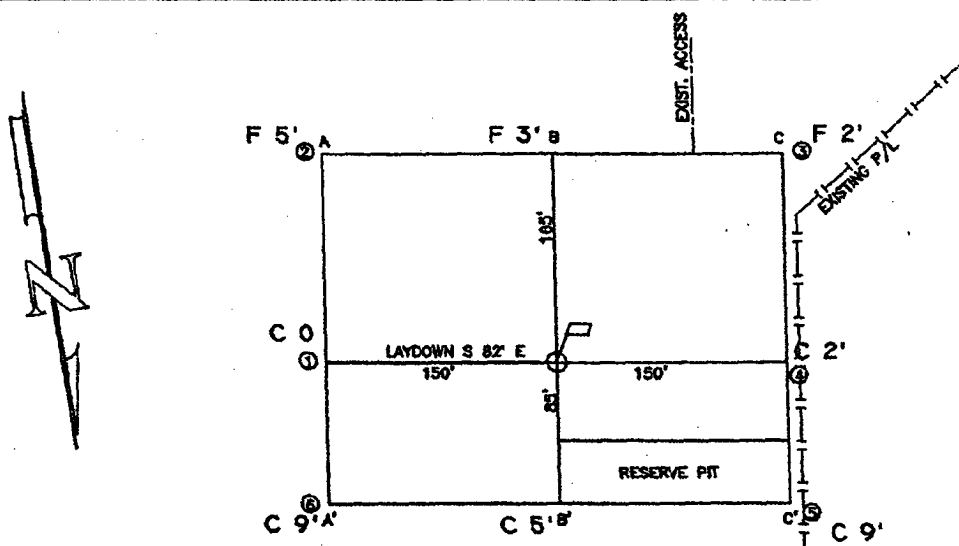
11 Bottom Hole Location If Different From Surface

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

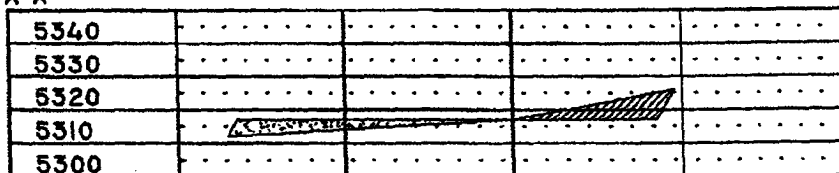
*Dedicated Acres	*Joint or Infill	*Consolidation Code	*Order No.

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

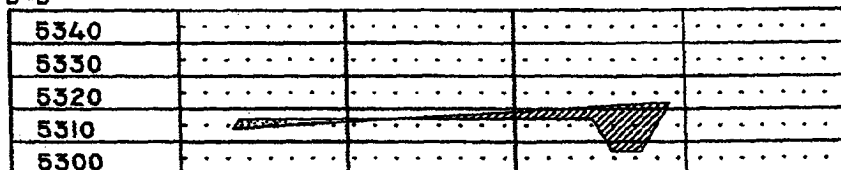
	N 88°55' W	515'	4119.24'	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Signature _____ Printed Name _____ Title _____ Date _____
	N 18°56' E 1317.04'			
	N 20°11' E 1317.03'			
	N 0°19' E			
SECTION 19				18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. 2/7/05 Date of Survey _____ Signature and Seal of Professional Surveyor: _____ Certificate Number _____
	N 89°14' W	4128.96'		



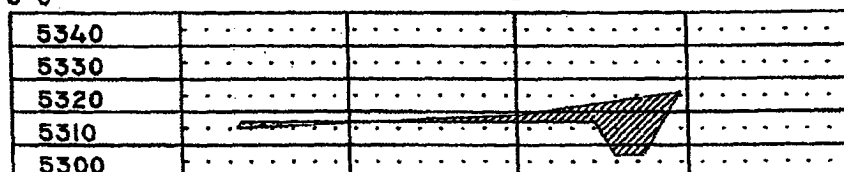
ELEVATION A-A'



B-B'



C-C'



LEASE: SALTY DOG #6

FOOTAGE: 515' FNL, 1300' FWL

SEC. 19 TWN. 29-N RNG. 13-W N.M.P.M.

LATITUDE: 36°43'04.0" LONGITUDE: 108°14'53.0"

ELEVATION: 5317

LANCE OIL & GAS COMPANY, INC.
KIRTLAND, NEW MEXICO

SURVEYED: 2/7/05

REV. DATE:

APP. BY L.P.

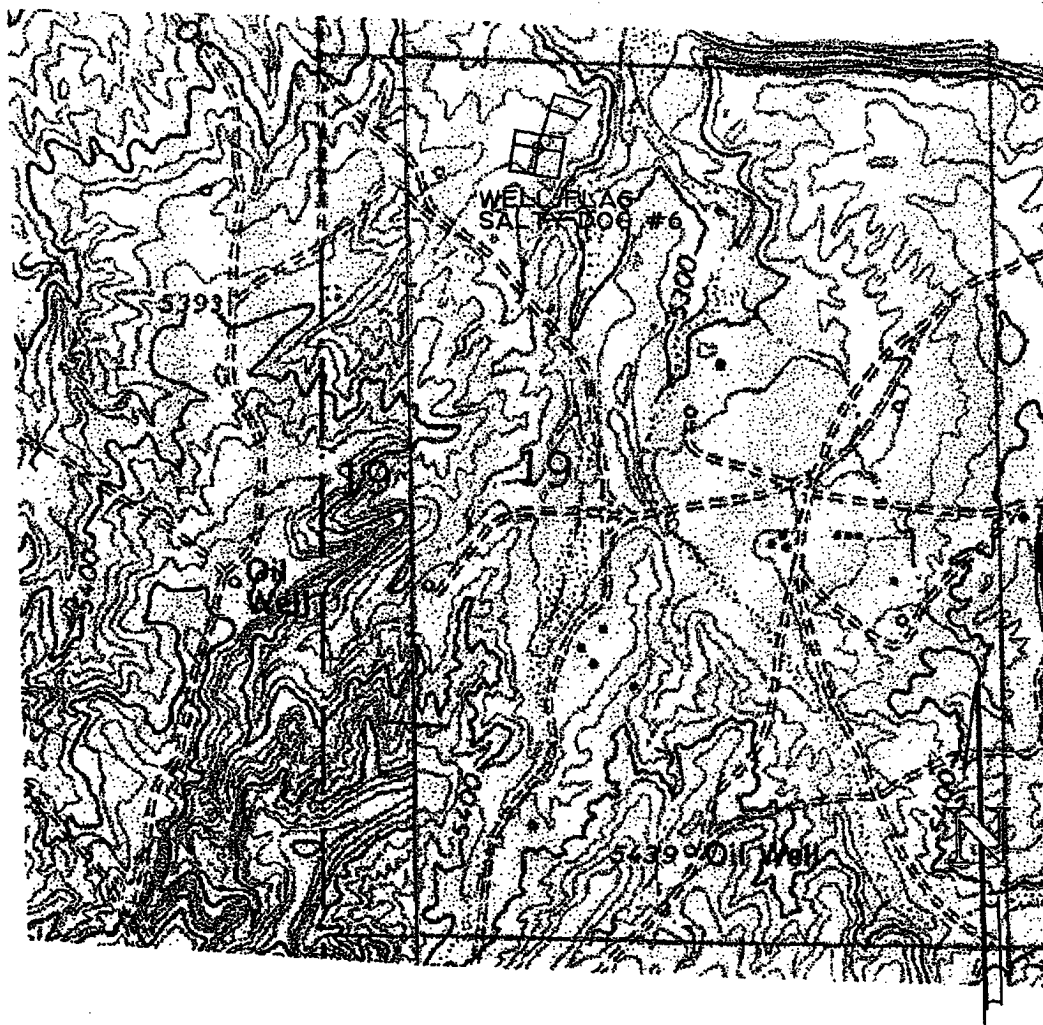
DRAWN BY: T.G.

DATE DRAWN: 2/8/05

FILE NAME: 5544C02

UNITED
FIELD SERVICES INC.

P.O. BOX 3651
FARMINGTON, NM 87489
OFFICE: (505) 334-0408

LEASE: SALTY DOG #6FOOTAGE: 515' FNL, 1300' FWLSEC. 19 TWN. 29-N RNG. 13-W N.M.P.M.LATITUDE: 36°43'04.0" LONGITUDE: 108°14'53.0"ELEVATION: 5317

LANCE OIL & GAS COMPANY, INC.
KIRTLAND, NEW MEXICO

SURVEYED: 2/7/05

REV. DATE:

APP. BY L.P.

DRAWN BY: T.G.DATE DRAWN: 2/8/05FILE NAME: 5544C02

UNITED
FIELD SERVICES INC.

P.O. BOX 3851
FARMINGTON, NM 87489
OFFICE: (505) 334-0408

DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
---------	----------	----------	-----------	------	---------

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



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

[D] Other: Specify _____

[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

[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.

Paul Lehrman

Print or Type Name

Signature

Sr. Landman

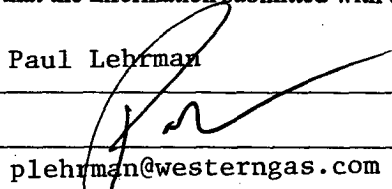
Title

3/7/05

Date

plehrman@westerngas.com
 e-mail Address

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery Pressure Maintenance XX Disposal Storage
Application qualifies for administrative approval? XX Yes No
- II. OPERATOR: Lance Oil & Gas Company, Inc.
ADDRESS: Box 70, Kirtland, NM 87417
CONTACT PARTY: Paul Lehrman PHONE: 598-5601
Ext. 57
- 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 XX 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:
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: Paul Lehrman TITLE: Sr. Landman
SIGNATURE:  DATE: 3-7-05
E-MAIL ADDRESS: plehrman@westernngas.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.

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: Lance Oil & Gas Company, Inc.

WELL NAME & NUMBER: Salty Dog #6

WELL LOCATION: 515' FNL & 1300' FWL

C

19

29N

13W

FOOTAGE LOCATION

UNIT LETTER

SECTION

TOWNSHIP

RANGE

WELLBORE SCHEMATICWELL CONSTRUCTION DATASurface Casing

See attached

Hole Size: 12 1/4" Casing Size: 8 5/8"

Cemented with: 296 sx. or 350 ft³

Top of Cement: Surface Method Determined: Visual

Intermediate Casing

Hole Size: N/A Casing Size:

Cemented with: sx. or ft³

Top of Cement: Method Determined:

Production Casing

Hole Size: 7 7/8" Casing Size: 5 1/2"

Cemented with: 1123 sx. or 1632 ft³

Top of Cement: Surface Method Determined: Visual

Total Depth: 7200'

Injection Interval

6780' feet to 6905'

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 2 7/8" Lining Material: Plastic

Type of Packer: Baker Full Bore Tension with On/Off Tool

Packer Setting Depth: 6700'

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

Additional Data

1. Is this a new well drilled for injection? XX Yes No
- If no, for what purpose was the well originally drilled?

2. Name of the Injection Formation: Entrada
3. Name of Field or Pool (if applicable): SWD Entrada Pool 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. No

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Fruitland Coal 1000'; Pictured Cliffs 1025'
- Cliff House/Menefee/Pt Lookout 2670'-3535'; Gallup 4756'
- Dakota 5641'
- No known production below dakota formation

FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT
CONTINUED

Lance Oil & Gas Company, Inc.
Salty Dog #6 SWD Disposal Well
515' FNL & 1300' FWL
Section 19, T29N, R13W, NMPM
San Juan County, New Mexico

III. Injection Well Data: See also attached sheet.

Salty Dog #6 SWD (Federal Lease NMSF-079065)
515' FNL & 1300' FWL
Section 19, T29N, R13W, NMPM
San Juan County, New Mexico

ESTIMATED FORMATION TOPS:

<u>Formation</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Subsea Elevation</u>
Kirtland Shale	Surface	5,317'	+5,317'
Fruitland Fm	425'	437'	+4,892'
Fruitland Coal	1000'	1012'	+4,317'
Pictured Cliffs	1025'	1037'	+4,292'
Lewis Shale	1175'	1187'	+4,142'
Cliff House	2,670'	2,682'	+2,647'
Menefee	2,715'	2,727'	+2,602'
Point Lookout	3,535'	3,547'	+1,782'
Upper Mancos Shale	3,820'	3,832'	+1,497'
Gallup	4,756'	4,768'	+ 561'
Greenhorn	5,537'	5,549'	- 220'
Graneros	5,595'	5,607'	- 278'
Dakota	5,641'	5,753'	- 324'
Morrison	5,875'	5,887'	- 558'
Bluff	6,540'	6,552'	-1,223'
Summerville	6,655'	6,667'	-1,338'
Todlito	6,750'	6,762'	-1,433'
Entrada	6,780'	6,792'	-1,463'
Chinle	6,905'	6,972'	-1,588'
Total Depth (TD)*	7,200'	7,212'	-1,883'

*All elevations reflect the ungraded ground level of 5,317'

Formation Tops determined by correlative logs from the Aztec Oil & Gas Company Hagood 26-G well, which was a Totah Gallup completion. Location of this well is 620' FNL & 3350' FEL-Section 19-T29N-R13W, the Redfern & Herd, Inc. Airport #2, which was a Basin-Dakota completion. Location of this well is 990' FSL & 1190' FEL-Section 8-T29N-R13W, and the Lance Salty Dog #3 SWD well, which is located 850' FNL & 770' FEL-Section 28-T29N-R14W, San Juan County, NM.

CASING AND CEMENTING PROGRAM:

<u>Hole Size</u>	<u>O.D.</u>	<u>Weight (lb/ft)</u>	<u>Grade</u>	<u>Age</u>	<u>GL Setting Depth</u>
12 1/4"	8 5/8"	24	J-55	New	420'
7 7/8"	5 1/2"	15.5	J-55	New	7200'

Surface casing will be cemented to surface with ≈350 cu.ft. (≈296 sx) Class B containing 1/4#/sk cello flake + 2% CaCl. Yield = 1.18 cu. ft/sk; slurry weight = 15.6 ppg. Volume is based on 100% excess. WOC = 6hours. WOC will be per cement company recommendations, but in not event will be less than 6 hours. Pressure test surface casing to 600 psi for 30 minutes.

FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT
CONTINUED

Lance Oil & Gas Company, Inc.
Salty Dog #6 SWD Disposal Well
515' FNL & 1300' FWL
Section 19, T29N, R13W, NMPM
San Juan County, New Mexico

Production casing hole will first be cleaned by circulating at least 150% of hole volume with drilling fluid to surface. Lead with ≈449 cu.ft. (≈229 sx) Halliburton light cement 65:35 Poz with 1/4#/sk cello flake, 5#/sx Gilsonite, 12.4 ppg, yield of 1.96. Tail in with ≈1181 cu.ft. (≈894 sx) 50:50 Poz with 2% CaCl, 1/4#/sk cello flake, 5#/sx Gilsonite, 13.5 ppg, yield 1.32. Total cement volume is ≈1630 cu.ft. based on 100% excess and circulating to surface. Production casing will be cemented to surface. A DV tool will be placed as necessary to ensure cement will be circulated to the surface.. A two stage cementing procedure may be utilized.

A minimum of three centralizers on the Surface Casing. A minimum of 25 centralizers and 5 turbolizers will be ran on the production casing.

TUBING: 2 7/8" Plastic Lined (Internally Plastic Coated) Set @ 6780'.

PACKER:

Baker Full bore with On/Off Tool set @ 6700'.

INJECTION FORMATION INFORMATION:

Entrada

Injection interval, Entrada (6780-6905') will be perforated.

Approximate perforation intervals will be based on logs per well completion. The Salty Dog #6 will be open hole logged with an SP/Induction and cased hole logged prior to perforations, completion and authorization to inject. A CBL will be run to ensure adequate hydraulic isolation.

Well is being drilled specifically for injection of fluids.

There are no perforations as this is a new well.

Next highest production is from is the Dakota Formation (Basin Dakota (Oil/Gas) top which is @ approximately 5641'. Next Lower production is non-existent in the San Juan Basin.

IV. Is this an expansion of an existing project: No

V. Lease/Well Map: Attached hereto.

VI. Tabulation attached for wells which penetrate the proposed zone:

None

FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT
CONTINUED

Lance Oil & Gas Company, Inc.
Salty Dog #6 SWD Disposal Well
515' FNL & 1300' FWL
Section 19, T29N, R13W, NMPM
San Juan County, New Mexico

VII. Operating Data:

- 1) Average Daily volume rate is expected to be approximately 7000 bbls/day. Maximum daily volume rate is expected to be approximately 7500 bbls/day.
- 2) The system is closed.
- 3) The average injection pressure will be 1250 psi. Maximum pressure of 1356 psi will be requested with option for additional pressure increase with approved step rate test.
- 4) Injected water will be produced from the Pictured Cliffs (West Kutz PC) and Fruitland Coal (Basin Fruitland Coal) formations from wells drilled and completed (Navajo 21-4, Navajo 43-2, Navajo 34-1, Navajo 27-4, Navajo 22-3, Navajo 28-1) and Federal wells (WF Federal 19-4, FRPC 29-2, Ropco 18-3, and other wells in the vicinity). Lance has wells permitted and will drill approximately 20 wells in the area in 2005. All of the above wells are currently producing. The produced water will be re-injected into the Entrada formation.

An analysis of water from several of the above wells Lance Oil & Gas Company, Inc. operates is attached hereto. This water is representative of what Lance expects from the proposed wells in the West Kutz PC and Basin Fruitland Coal formations from the area.

- 5) Injected water is for disposal purposes. Analysis of Entrada water will be obtained. Lance will swab in and take a sample of the Entrada water and test to assure compatibility with the produced water. Fruitland Coal/PC water is representative of what Lance expects from proposed future wells in the vicinity and may be injected in this well bore.

VIII. Geological Information:

Injection will be in the Entrada formation. Top of the Entrada is @ 6780' with a total thickness of approximately 125'. The Fruitland Coal/Pictured Cliffs is a source of water being @ 1000' and below but is not a source of drinking water. These formations will be located behind casing and cemented. There are no known sources of drinking water below the proposed injection formation.

IX. Stimulation Program:

If after completion, logging and well analysis, well may be acidized or fracture stimulated as deemed appropriate.

X. Logs:

This well is in the proposal stage and therefore not drilled or logged. The log from the Aztec Oil & Gas Company Hagood 26-G well, which was a Totah Gallup completion. (P & A'd), was used for correlative purposes and is attached hereto. Location of this well is 620' FNL & 3350' FEL-Section 19-T29N-R13W. The log from the Richardson (now Lance Salty Dog #3 well, which was a Entrada SWD completion (currently used for injection), was also used for correlative purposes and is attached hereto. Location of this well is 850' FSL & 770' FEL-Section 28-T30N-R14W).

FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT
CONTINUED

Lance Oil & Gas Company, Inc.
Salty Dog #6 SWD Disposal Well
515' FNL & 1300' FWL
Section 19, T29N, R13W, NMPM
San Juan County, New Mexico

The log from the Redfern & Herd, Inc. Airport #2, was used for correlative purposes and is attached hereto. Location of this well is 990' FSL & 1190' FEL-Section 8-T29N-R13W.

XI. Fresh Water Analysis:

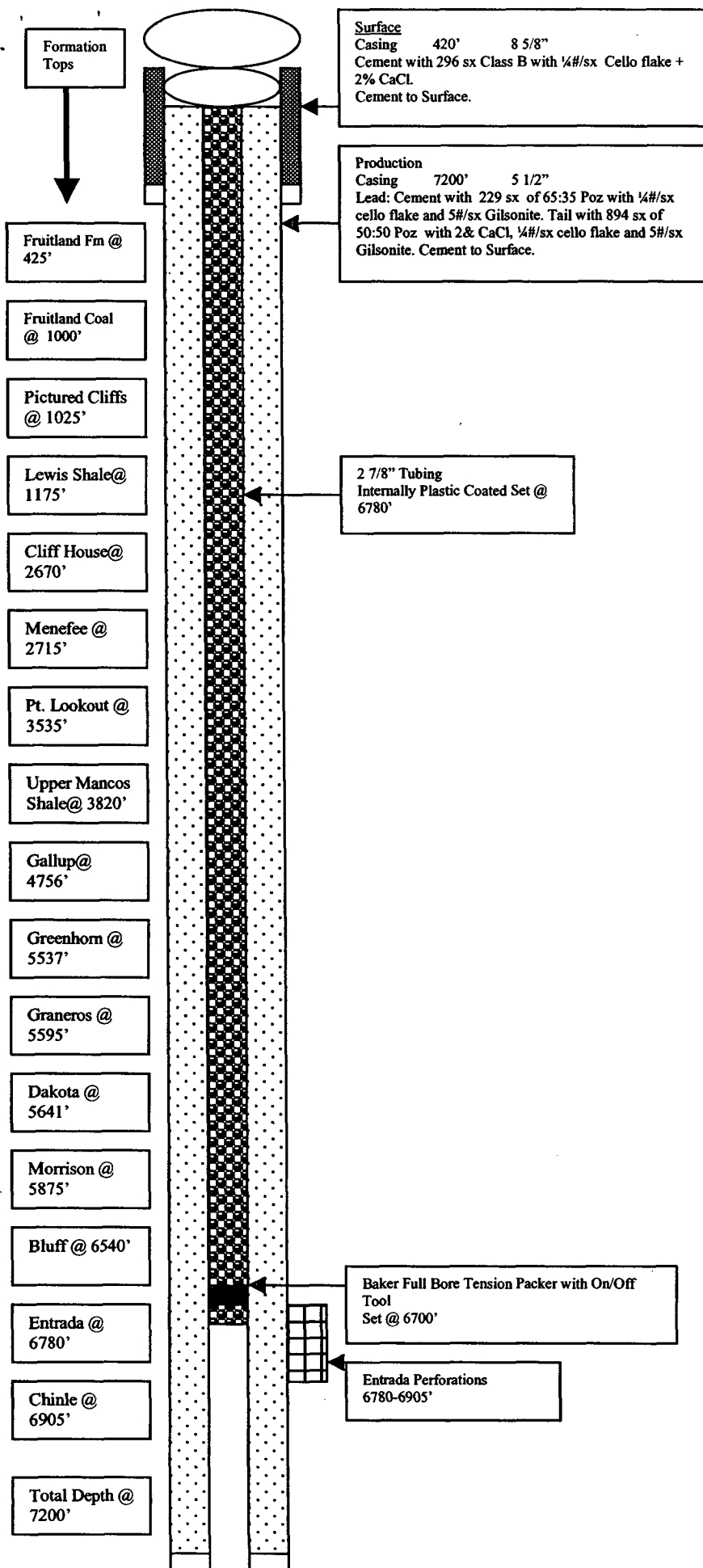
A search of the State Engineer's office in Aztec, New Mexico revealed that there are no fresh water wells within a one mile radius of the proposed disposal well.

XII.

Lance Oil & Gas Company, Inc. has examined the available geologic and engineering data and finds no evidence of open faults or any other hydrologic connection between the proposed disposal well and underground sources of drinking water.

XIV. Proof of Notice:

Attached are copies of Certified Mail Receipts along with letters notifying the surface owner, offset operators and leaseholders and a copy of the proof of publication.



Attachment III Continued
Injection Well Data Sheet
Well bore Diagram
Richardson Operating Company
Salty Dog #6
515' FNL & 1300' FWL
Section 19, T29N, R13W, NMPM
San Juan County, New Mexico

Notice of Intent
Drill Salt Water
Disposal Well and
Inject Produced Water

Contact Party:

Lance Oil & Gas Company, Inc.
Post Office Box 70
Kirtland, New Mexico 87417
Attn: Paul Lehrman
(505)598-5601, Ext. 57

Well Name and Legal Description:

Salty Dog #6 SWD
515' FNL & 1300' FWL
Section 19, Township 29 North, Range 13 West, NMPM
San Juan County, New Mexico

Lance Oil & Gas Company, Inc. is making application with the New Mexico Oil Conservation Division for a C-108 (Authorization to Inject). Intended purpose of the Application will be to drill and complete the Salty Dog #6 as a salt water disposal well. The formation name and depth will be the Entrada (6780-6905'). Maximum injection rate will be approximately 7500 BWPD. Maximum injection pressure will be approximately 1356 PSI. Interested parties must file their objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505, within 15 days.