ATS-10-630

OCD-ARTESIA

Form 3160-3
(April 2004)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
Orig: LC-028936 D

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☑ REENTER

7. If Unit or CA Agreement, Name and No.

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

8. Lease Name and Well No.
South Loco Hills Fed Disposal No. 1 (38354)

2. Name of Operator
Havenor Operating Company (10216)

9. API Well No.
30-015-29104

3a. Address **200 W. 1st St., Suite 747**
Roswell, NM 88203-4678

3b. Phone No. *(include area code)*
575-622-0283

10. Field and Pool, or Exploratory
SWD; DEVONIAN (96101)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface **660' FSL & 2220' FEL** (UL O)
At proposed prod. zone **Same**

11. Sec., T. R. M. or Blk. and Survey or Area
Sec. 30, T17S-R30E, NMPM

14. Distance in miles and direction from nearest town or post office*
22 miles east of Artesia, 3 miles southwest of Loco Hills, NM

12. County or Parish
Eddy

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
	Not applicable	**Not applicable**

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. on file
	PBTD 12900'	NMB000680 **Bond submitted with this application**

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
KB: 3595', G: 3576'	**05/15/2010**	**30 days**

RECEIVED
SEP 21 2010
NMOCD ARTESIA

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
Kay Havenor	**Kay Havenor**	**04/19/2010**

Title: **Geologist**

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/ Don Peterson		SEP 16 2010

Title	Office
FIELD MANAGER	CARLSBAD FIELD OFFICE

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

APPROVAL FOR TWO YEARS

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

(Instructions on page 2)

Roswell Controlled Water Basin

SWD-1182-0

Kg 10/15/10

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

Havenor Operating Company
South Loco Hills Fed Disposal Well No. 1
30-015-29104

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO 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	2 Pool Code	3 Pool Name
30-015-29104	~~84072~~ 96101	~~Sand Tank Morrow~~ ~~Sand Tank Strawn~~ ~~Undes~~ SWD; DEVONIAN

4 Property Code	5 Property Name	6 Well Number
38354	SAND TANK "31" FED. COM.	1

7 OGRID No.	8 Operator Name	9 Elevation
10216	~~SAMMAN OIL & GAS INC.~~ HAVENOR OPERATING CO	3576

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
O	31	17-S	30-E		660	SOUTH	2220	EAST	EDDY

11 Bottom Hole Location If Different From Surface

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

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
320			

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

Y = 649613
X = 599542
2220'
660'

17 OPERATOR CERTIFICATION

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

Signature
A. G. Hammack
Printed Name
Prod
Title
7-15-96
Date

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 best of my belief.

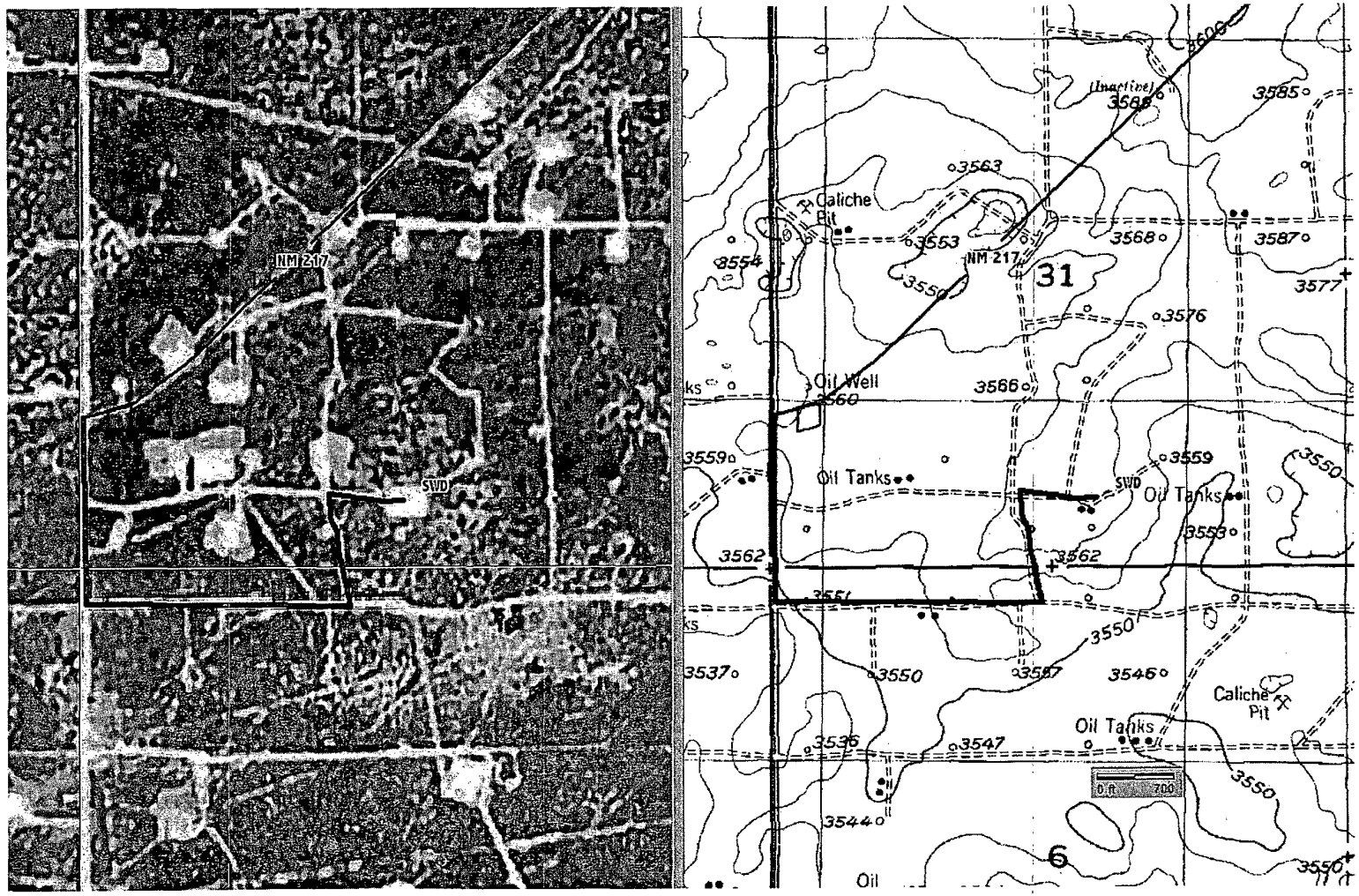
APRIL 9, 1996
Date of Survey
Signature and Seal of Professional Surveyor:
Certificate Number 8278

SWD - 1182-0

Copy of C-102 for original well from NM OCD digital files. No acreage dedicated - SWD

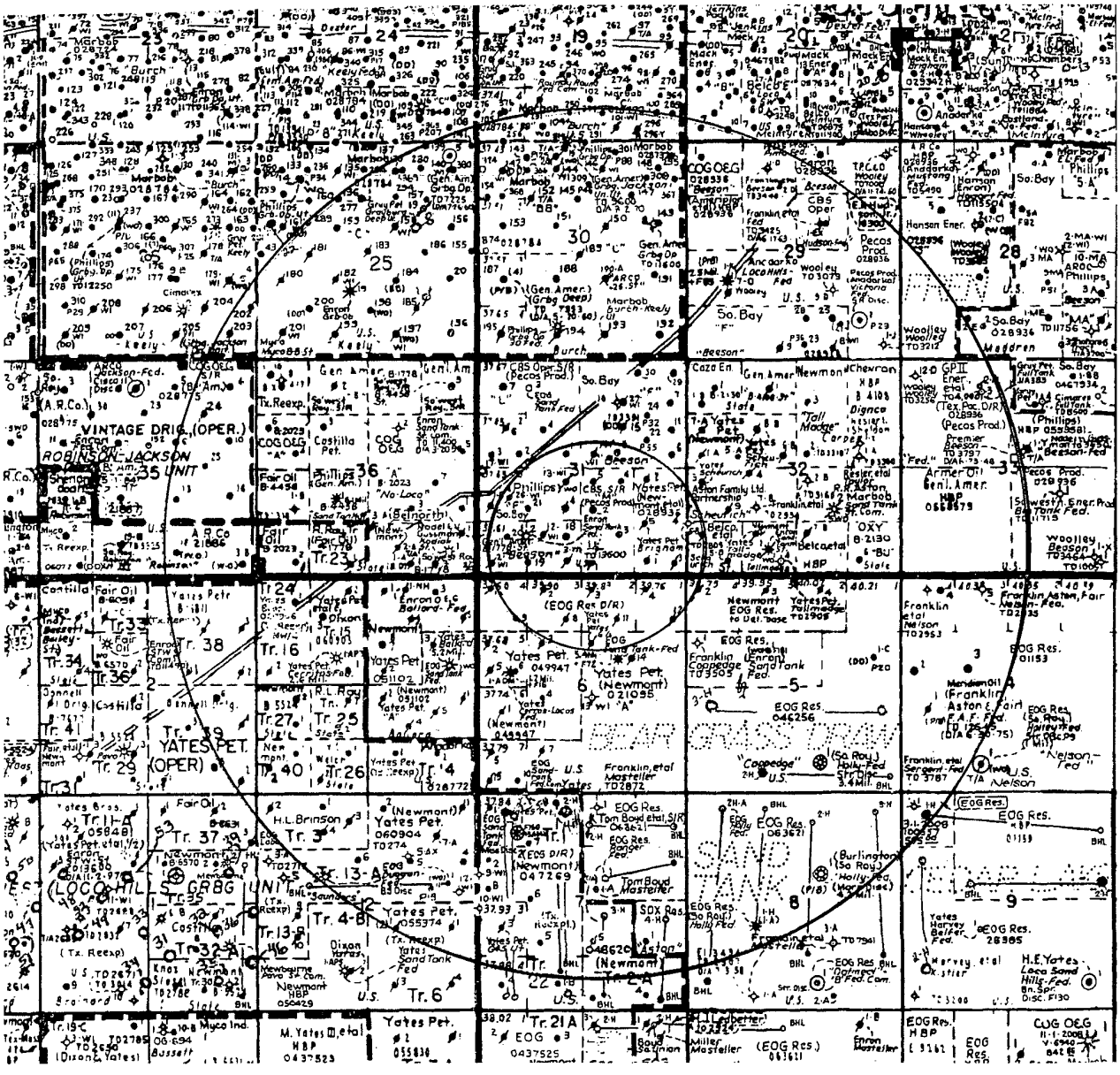
Havenor Operating Company
South Loco Hills Fed Disposal Well No. 1
660' FSL & 2220' FEL
Sec. 30, T17S-R30E API 30-015-29104

Exhibit 1 Access map south of Loco Hills, NM See verbal description in Surface Use Plan, item 1.



Havenor Operating Company
South Loco Hills Fed Disposal Well No. 1
660' FSL & 2220' FEL
Sec. 30, T17S-R30E API 30-015-29104

Exhibit 2 General Land Plat



HAVENOR OPERATING COMPANY

WELL: South Loco Hills Fed Disposal Well No. 1
LOCATION: 660' FSL & 2220' FEL
Sec. 31, T17S-R30E
COUNTY: Eddy County, New Mexico

WELL DATA

TD: 13600' PBTD: 12,957' P&A: 9/30/2003 ELEV: GL 3576 KB 3595

CASING: 11-3/4" 42#, ST&C set at 650' Circulated cement
8-5/8" 32# J-55 ST&C set at 3981' Circulated cement
5-1/2" 17# L-80/CF-95 LT&C/Buttress set @ 12,975'. DV tool @ 8438'. TOC 10000' + 9.5# mud to DV tool @ 8438' and second stage cement circulated to surface.

5-1/2" casing cut and pulled from 1909' on P&A.

ORIGINAL PERFORATIONS Devonian 12720'-751'
Morrow 11011'-016'
Bone Springs 7766'-834'

GENERAL RE-ENTRY AND SWD COMPLETION

Re-work existing road and pad. Install anchors. Dig-out cellar, prep 8-5/8" for re-entry. Post well sign.

Rigup WO unit and tankage. Drill-out 8-5/8" plugs w/ 7-7/8" bit to 5-1/5" stub @ 1909' and wash over 5-1/2". Back-off 5-1/2" one joint below stub and pull out of hole. Tie-in 5-1/2" to surface and test casing. Cement to surface and WOC overnight. Install BOP. Begin clean-out w/ 4-38" bit

Drill-out plug @ 3931' and test csg to 1500 psi. Drill-out cement plug @ 7700', circ hole clean to CIBP @ 8000'. Set retainer @ 7700' and squeeze perfs 7766' - 7834'. Test 5-1/2" to 1000 psi. Drill-out to 7834'. Test csg to 1000 psi. Drill-out to CIBP @ 8000' and test csg. Drill CIPB @ 8000'. Drill CIBP @ 10,900'. Clean-out to 12,600'.

Set retainer 11,030' and squeeze perfs 11,011' - 11,016'. Drill cement & retainer. Test casing. Drill CIBP 12,615' and clean-out to 12,900' (PBTD is 12,957'). Test casing.

New perforations 12,444' - 12,658' (OA) and original perfs 12,720' - 12,751' (OA) in five semi-separated zones. Acidize 15% HCl. Run 3-1/2" intergal tubing and set packer about 12,400'. Test injection rate.

Flange-up wellhead. Release WO unit. Haul tankage and tanks. Clean location.

Havenor Operating Company
South Loco Hills Federal Disposal #1
660' FSL & 2220' FEL, Unit O, Sec. 31-17S-30E
Eddy Co. NMLC-028936D API 30-015-29104

Drilling Plan APD Deficiencies Report:

Pressure Control: BOP to be used on WO Unit will be Townsend 81 Series, double ram, manual shut-off, 8" bore with 3000# psi test. Because the well is cased, upon re-entry below the P&A cement in the 8-5/8" casing the BOP will be closed and pressured-up to 2000 psi and held for 30 minutes. The WO operations will be fresh water reverse circulation to surface tanks.

Proposed Casing Program: The original well set 13-3/8" 42# @ 650' and circulated cement to the surface. 8-5/8" 32# was set @ 3981' and cement circulated to the surface. 5-1/2" was set at 12.957' w/DV tool @ 8,443' cemented w/1423 sxs w/TOC 10,000' (CBL). Annulus loaded w/9.5# mud 10,000' to DV tool @ 8,443'. Cemented 8,443' to 2,410' (CBL) through multi-stage @8,443'. On P&A 5-1/2" was cut and pulled from 1,909'. Cut 5-1/2" will be dressed and tied-into with new 5-1/2" H-40 14# STC.

Cement Details: 5-1/2" will be cemented to the surface with approximately 600 sxs Class C.

Type and Characteristics of Mud System: Fresh water and reverse circulation to surface tanks.

Testing, Coring, and Logging Procedures: No testing or coring will be done. Original perfs from 7,766'-7,834' and 11,011'-11,016' will be squeezed w/cement during re-entry. A gamma ray tie-in log for perforating may be run in-casing from PB TD to approximation 12,200'.

Expected Bottom Hole Pressure and Temperature: BHT 170° @ 12,900' PBD. BHP not reported

Abnormal Conditions: No lost circulation, abnormal pressures or temperatures were reported during original drilling.

Remarks and Other Needed Information

1. BOP will be Townsend 81 Series, double ran, manual shut-off, 8" bore w/3000# test. BOP testing procedure will be to pressure casing/tubing to 2000# for 20 minutes.
2. Closed loop system not employed. Hole is cased and cemented. Reverse circulation from and to frac tank containers.
3. 5-1/2" H-40 14.0# STC new casing will be used to tie-back at 1,909'
4. Approximately 600 sxs Class C to tie-back at 1,909'. 400 lead 2.01 cf/sx 200 tail 1.32 cf/sx per operator 7/[illegible]/10 RGH
5. The mud system will be fresh water.
6. See "Testing, Coring, and Logging Procedures" above for possible logging.
7. Small quantities of H_2S are known to be present in the Queen and San Andres. All know H_2S zones are already behind cemented 5-1/2" and/or 8-5/8" casing and will remain un-perforated. No H_2S was reported in the original drilling of this well. Emergency contacts are listed below for posting at the WO Unit.

See COA

Kay Havenor

BEFORE

South Loco Hills Federal Disposal No.
660' FSL & 2220' FEL
Sec. 31, T17S-R30E
Eddy County, NM

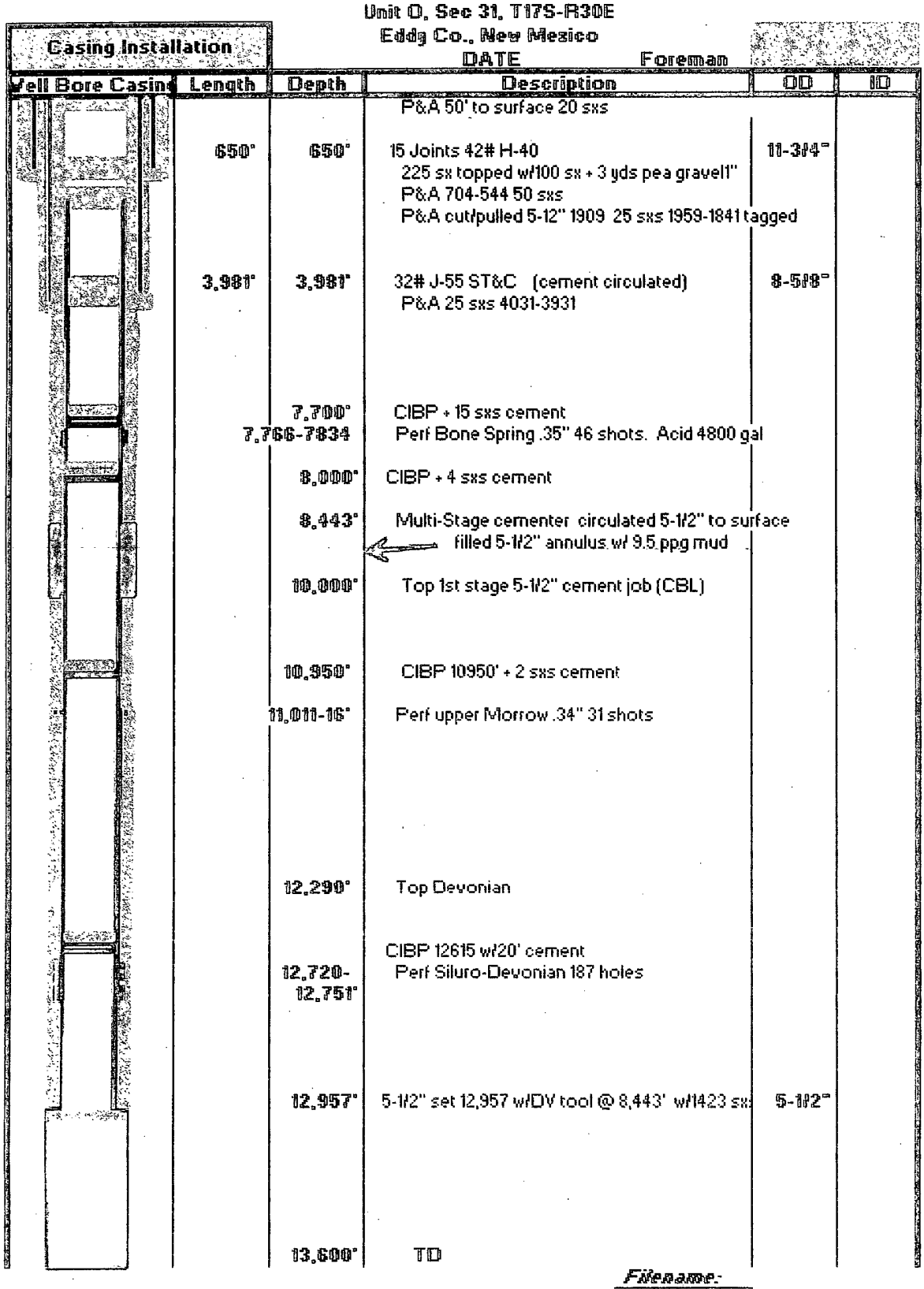
Enron Oil & Gas Company 01 Sand Tank 31 Federal Com

30-015-29104

Unit O, Sec 31, T17S-R30E
Eddy Co., New Mexico

Casing Installation

DATE Foreman



Well Bore Casing	Length	Depth	Description	OD	ID
			P&A 50' to surface 20 sxs		
	650'	650'	15 Joints 42# H-40 225 sx topped w/100 sx + 3 yds pea gravel1" P&A 704-544 50 sxs P&A cut/pulled 5-12" 1909 25 sxs 1959-1841 tagged	11-3/4"	
	3,981'	3,981'	32# J-55 ST&C (cement circulated) P&A 25 sxs 4031-3931	8-5/8"	
		7,700'	CIBP + 15 sxs cement		
		7,766-7834	Perf Bone Spring .35" 46 shots. Acid 4800 gal		
		8,000'	CIBP + 4 sxs cement		
		8,443'	Multi-Stage cementer circulated 5-1/2" to surface filled 5-1/2" annulus w/ 9.5 ppg mud		
		10,000'	Top 1st stage 5-1/2" cement job (CBL)		
		10,950'	CIBP 10950' + 2 sxs cement		
		11,011-16'	Perf upper Morrow .34" 31 shots		
		12,290'	Top Devonian		
		12,720-12,751'	CIBP 12615 w/20' cement Perf Siluro-Devonian 187 holes		
		12,957'	5-1/2" set 12,957 w/DV tool @ 8,443' w/1423 sx	5-1/2"	
		13,600'	TD		

NOT TO SCALE

Filename:
EOG Well diagra

PROPOSED RE-ENTRY AND COMPLETION PLAN

API: 3001529104
Operator: Havenor Operating Company
Lease: South Loco Hills Federal Disposal Well No: 1
Location: Sec 31, T17S-R30E Eddy Co., NM
Footage: 660 FSL, 2310 FEL

Originally: EOG Sand Tank 31 Federal Com No. 1

KB: 3595
GL: 3576

Original Surface Csg

Size:	11-3/4"
Set @:	650
Sxs cmt:	225 sx + 3 yds gravel
Circ:	Topped from surface
TOC:	
Hole Size:	14-3/4"

Original Intermediate Csg

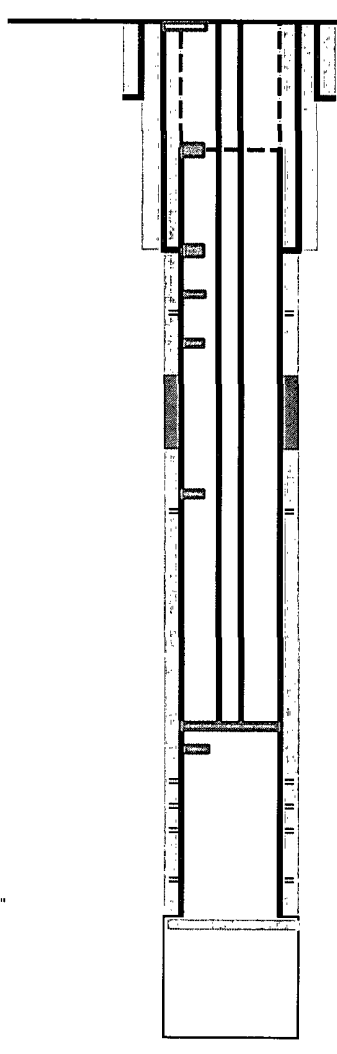
Size:	8-5/8"
Set @:	3981
Sxs cmt:	475
Circ:	Circulated
TOC:	
Hole Size:	11"

Original Production Csg

Size:	5-1/2" L80 17#
Set @:	12957
Sxs cmt:	2-Stage 12957
Circ:	Yes
TOC:	
Hole Size:	7-7/8"

Hole Size to TD: 7-7/8", clean-out to 12900' w/4-3/8"

Tubular requirements (made-up):
5-1/2" H40 14# 1900'
3-1/2" N80 10.3# Integral GRE Duroline20 coated 12400'



Not to Scale

0
Reenter w/7-7/8" bit
Surface cement plug to 20 ft
650
Drill cement plug 544-704'
Tag & dress pulled 5-1/2" @ 1909'
Tie-in 5-1/2" and re-cement to surface
Clean-out and test 5-1/2" csg

3981 Drill cement plug 3931-4031'

Drill CIBP + 20' cement @7700' tag CIBP 8000'
Sqz Bone Springs perfs 7766-7834, test 5-1/2"
Drill CIBP + cement @ 8000'
Originally 5-1/2" was set and
multi-stage cemented w/DV tool @ 8443'
w/cement to surface. 9.5# mud fills
annulus of 5-1/2" from 10000 to 8443'

Drill CIBP + 2 sxs cement 10950'
W/retainer sqz Morrow perfs 11016-16'
Test 5-1/2"

Top Siluro-Devonian 12290
Lok-Set packer on 3-1/2" approx 12400'
Drill CIBP 12615' w/20' cement on top
Clean-out to 12900
New perfs 12444-58, 12498-12554, 12640-58 KB

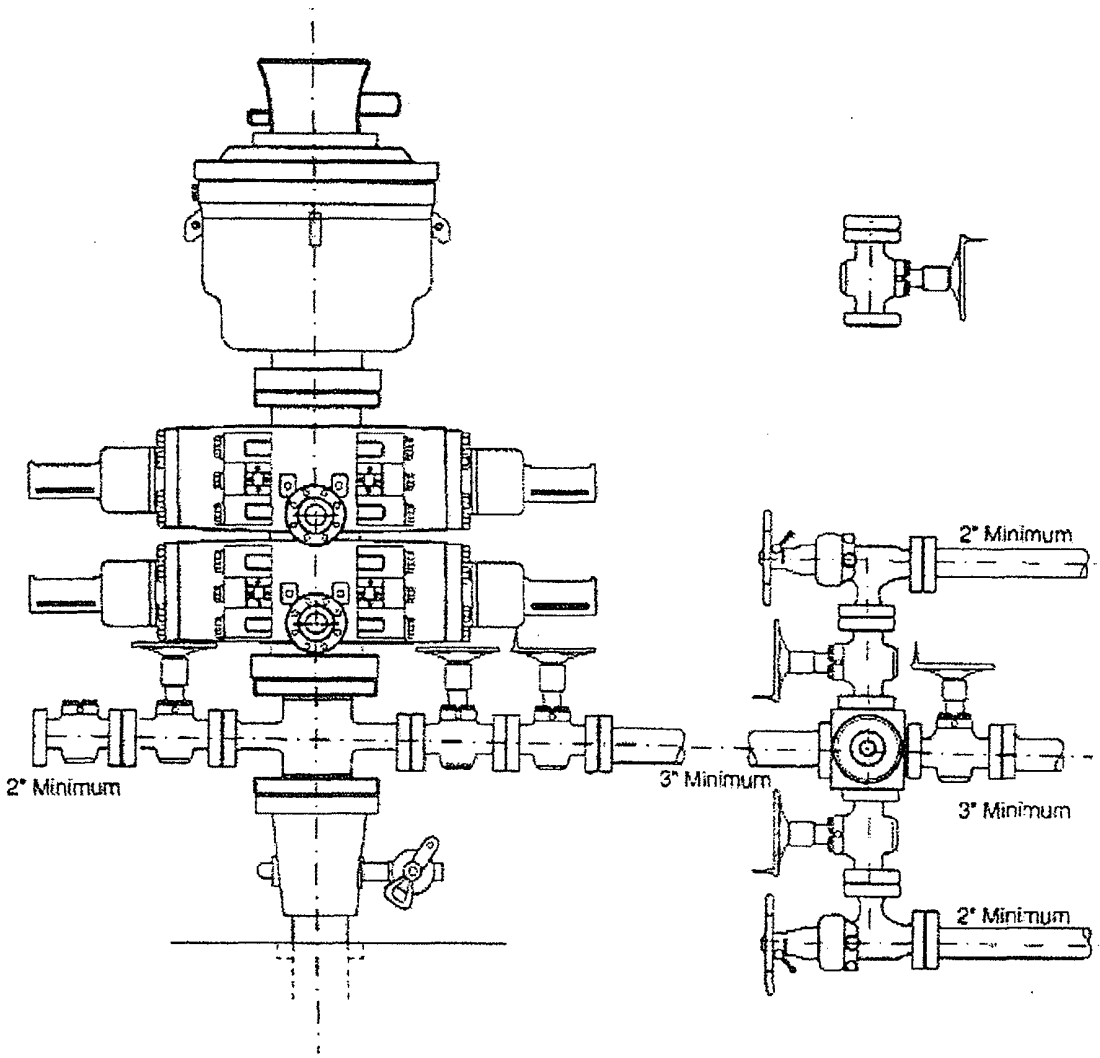
Original perfs swbd 117 BW 6-1/2 hrs
Original Siluro- Dev perfs 12720-751 (187 holes)
Spot 2500 gal 15% HCl @ 12700
Spot 5000 gal 15% HCl @ 12500'
Spot 2500 gal 15% HCl @ 12400
Original 5-1/2" set and cemented to 12,957'

TD 13600
Set GRE coated tubing w/Lok-Set approx 12400'
Load 3-1/2" annulus w/corrosion inhibitor
Complete surface head for injection

3000 psi BOP and Manifold

Schematic using Townsend 81 Series

Havenor Operating Co. South Loco Hills Federal Disposal #1
Sec. 31, T17S-R30E Eddy Co. NM



EMERGENCY CONTACTS

Contactos de Emergencia

Dial 911

Loco Hills Fire Dept	575-677-2349
Artesia Fire and Ambulance	575-746-5050
Maljamar Fire and Ambulance	575-674-4100
Artesia General Hospital	
702 N. 13th St. Artesia	575-748-3333

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance ___X___Disposal _____Storage
Application qualifies for administrative approval? ___X___Yes _____No

II. OPERATOR: Havenor Operating Company

ADDRESS: 904 Moore Ave, Roswell, NM 88201

CONTACT PARTY: Kay Havenor PHONE: 575-622-0283

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 ___X___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: Kay Havenor TITLE: President
SIGNATURE: Kay Havenor DATE: 5/26/2009

E-MAIL ADDRESS: KHavenor@georesources.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: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

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.

Side 1

INJECTION WELL DATA SHEET

OPERATOR: Havenor Operating Company

WELL NAME & NUMBER: South Loco Hills Federal Disposal No. 1

WELL LOCATION: 660' FSL & 2220 FEL | O | 31 | 17S | 30E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC

See attached detail bore hole diagram

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 14-3/4" Casing Size: 11-3/4"

Cemented with: 225 sx + 3 yds gravel ***or*** _____ ft^3

Top of Cement: Surface Method Determined: Visual

Intermediate Casing

Hole Size: 11" Casing Size: 8-5/8"

Cemented with: 475 sx. ***or*** _____ ft^3

Top of Cement: Surface Method Determined: Circulated

Production Casing

Hole Size: 7-7/8" Casing Size: 5-1/2" L 17#

Cemented with: DV tool 1,323 sx. ***or*** _____ ft^3

Top of Cement: Surface - Attached diagram Method Determined: Circulated

Total Depth: 13,600' PB to 12,957'

Injection Interval

Perforations 12,306 feet to 12,542

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 3-1/2" L-80 Lining Material: IPC coated

Type of Packer: Baker Lockset

Packer Setting Depth: approx 12,100'

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

Additional Data

1. Is this a new well drilled for injection? Yes X No

   If no, for what purpose was the well originally drilled? Oil-gas test

2. Name of the Injection Formation: Siluro-Devonian

3. Name of Field or Pool (if applicable):

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.

   See attached detailed well diagram

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: All Overlying: Queen, Grayburg, San Andres, Yeso, Bone Spring,

   Morrow to a depth of about 11,500 ft.

BEFORE

South Loco Hills Federal Disposal No.
660' FSL & 2220' FEL
Sec. 31, T17S-R30E
Eddy County, NM

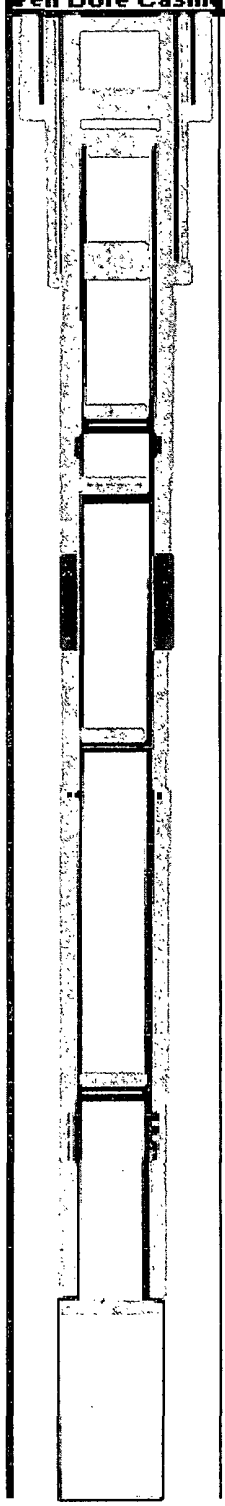
Enron Oil & Gas Company #1 Sand Tank 31 Federal Com

30-015-29104

Unit O, Sec 31, T17S-R30E
Eddy Co., New Mexico

Casing Installation

DATE **Foreman**



Well Bore Casing	Length	Depth	Description	OD	ID
			P&A 50' to surface 20 sxs		
	650'	650'	15 Joints 42# H-40 225 sx topped w/100 sx + 3 yds pea gravel1" P&A 704-544 50 sxs P&A cut/pulled 5-12" 1909 25 sxs 1959-1841 tagged	11-3/4"	
	3,981'	3,981'	32# J-55 ST&C (cement circulated) P&A 25 sxs 4031-3931	8-5/8"	
		7,700'	CIBP + 15 sxs cement		
		7,766-7834	Perf Bone Spring .35" 46 shots. Acid 4800 gal		
		8,000'	CIBP + 4 sxs cement		
		8,443'	Multi-Stage cementer circulated 5-1/2" to surface filled 5-1/2" annulus w/ 9.5 ppg mud		
		10,000'	Top 1st stage 5-1/2" cement job (CBL)		
		10,950'	CIBP 10950' + 2 sxs cement		
		11,011-16'	Perf upper Morrow .34" 31 shots		
		12,290'	Top Devonian		
		12,720-12,751'	CIBP 12615 w/20' cement Perf Siluro-Devonian 187 holes		
		12,957'	5-1/2" set 12,957 w/DV tool @ 8,443' w/1423 sx	5-1/2"	
		13,600'	TD		

NOT TO SCALE

Filename:
EOG Well diagram

South Loco Hills Federal Disposal No.
660' FSL & 2220' FEL
Sec. 31, T17S-R30E
Eddy County, NM

Item VI:

There are no wells within either the ½ mile Area of Review or the 2 mile radius that penetrate the proposed injection formation. A tabulation of all reported wells in the AOR is included below.

Item VII:

1. The maximum injected volume is anticipated to by 20,000 BWPD. The average volume is anticipated to be 15,000 BWPD.
2. Injection will be through a closed system.
3. The maximum injection pressure is expected to be 2,500 psig, with an average pressure of 1,500 psig.
4. Water from the Artesia Group formations, San Andres, Glorieta, Yeso, Drinkard, Tubb, Abo, Bone Spring, Wolfcamp, Upper Pennsylvania, Atoka, and Morrow zones are anticipated to be disposed. Waters from these zones should be compatible with the Siluro-Devonian disposal zone.
5. The analysis of a Devonian water sample from Sec. 16, T16S-R30E from the Go-Tech website is shown below. This sample TDS would approximate greater than 80,000 mg/l.

NM WAIDS

DATA | MAPS | HOME | SCALE | CORROSION

Water Samples for Well HENSHAW DEEP UT 001
API = 3001503917
Formation = DEV
Field = HENSHAW

Instructions:

Click — For general information about this sample.
Click — For scale calculation pages (Stiff-Davis or Oddo Tomson methods).
Click — To select **this water sample** for water mixing. It will lead to the main page, and add the sample ID to the mixing table.
Click 664 — Click the hyperlinked sample number to make a .csv for that sample, **or** select several check boxes and click Submit for multiple samples
The ions are in (mg/L) units.

	SampleID	T	R	S	SO4	CL	CO3	HCO3	K	Na	Ca	Mg
☐	5136	16S	30E	24	2200	35100	null	790	null	null	null	null

☐ SELECT/DESELECT ALL

Submit

New Mexico Tech — PRRC

South Loco Hills Federal Disposal No.
660' FSL & 2220' FEL
Sec: 31, T17S-R30E
Eddy County, NM

Item VIII:

The injection zone is typically referred to as the "Devonian." It is more accurately the Siluro-Devonian. The zone is composed of dolomites with scattered thin inter-beds of shale that are in-turn underlain by limestones. These carbonates typically exhibit vuggy porosity especially where the zones are water-wet. The Siluro-Devonian in the well extends from 12,290' to below the base of the 5-1/2" casing at 12,957' to about 13,050'. The thickness of the Siluro-Devonian is about 760 ft.

There are no potable water sources known in the AOR. USGS topographic maps and SPOT satellite imagery of the greater AOR show no indications windmills or spring/surface water-fed vegetation. Records of the New Mexico Office of the State Engineer do not report any water wells within or nearby the AOR.

Item IX:

Stimulation, if used, will consist of a maximum of 10,000 gals of 15% HCl with appropriate non-emulsifying and corrosion additives.

Item X:

All drilling, casing, testing reports and well logs by EOG, the original operator, are in the OCD files.

Item XI:

As stated in Item VIII, above, no known potable water wells are known in a one-mile radius of the proposed disposal well.

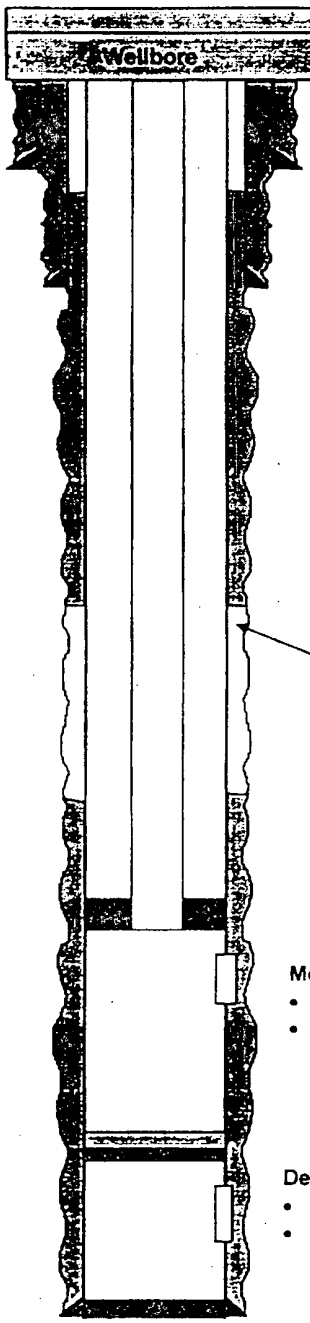
Item XII:

There is no geological evidence of open faults nor hydrologic connection between the disposal zone and any possible underground sources of potable water.

ENRON OIL & GAS COMPANY

SANDBANK '31' FED COM NO. 1
EDDY COUNTY, NEW MEXICO
DECEMBER 31, 1996

WELL SCHEMATIC



11-3/4" 42# H-40 ST&C (Cement Circulated) 650'

Top of Cement (Temperature Survey) 2,410'

8-5/8" 32# J-55 ST&C (Cement Circulated) 3,981'

Multi-Stage Cementer 8,443'

9.5 ppg Mud

Top of Cement (CBL) 10,000'

2-7/8" 6.5 lb/ft N-80 EUE 8rd Tubing 10,933'
5-1/2" PLS Packer & On/Off Tool with 2.125" 'R' Profile

Morrow Sand: Perf'd 12/17/96 11,011'-11,016' (6spf, 60° phased, 31 holes)

- 12/21/96 - Acidize w/ 3000 gallons 50% CO2/MOD 101 Acid
- 12/24/96 - Swabbing 1 BO & 1 BW after 38 hr SI. 38 hr SI pressure 1400 psig

5-1/2" CIBP + 20' of Cement 12,615'

Devonian: Perf'd 12/10/96 12,720'-12,751' (6spf, 60° phased, 187 holes)

- 12/10/96 - Acidize w/ 250 gallons 7-1/2% Fercheck SC Acid.
- 12/12/96 - Swabbing Black Water - Fluid level constant - 153 BOL

PBTD (CBL 12/9/96) 12,890'
5-1/2" 17# L-80/CF-95 LT&C/Buttress 12,957'

Surface Use Plan

Attachment to BLM form 3160-3
HAVENOR OPERATING COMPANY
South Loco Hills Fed Disposal No. 1
660' FSL & 2220' FEL
Sec. 31, T17S-R30E Eddy Co., NM

1. **Directions to location Existing Roads**

From Loco Hills, New Mexico on US 82 go south and southwest on CR 217 for 3.0 miles, turn south on oilfield caliche road for 0.34 mile, then east 0.45 miles to second caliche/dirt road on left (north), then north 0.20 miles to dirt/sand/caliche road on right (east), then east 0.14 miles to the location. See attached annotated topographic map and satellite image, Exhibit 1.

A. The re-entry location is marked with a dry hole steel marker.

B. The last 0.34 miles are caliche/dirt/sand and will require some to complete caliche improvement, as will sufficient space on the pad to accommodate workover rig, re-entry tankage, and truck turn-around.

2. **Planned Access Roads**

No new access roads are planned.

3. **Location of Existing Wells**

A. The existing wells within a 1/2 and a 2 mile radius are shown on Exhibit 2.

4. **Location of Existing or Proposed Facilities**

A. Existing Facilities - No facilities are currently existing at this location.

B. New Facilities Proposed - No storage facilities are anticipated at this location.

5. **Location and Type of Water Supply**

Fresh and/or brine water used in re-entry and completion will be provided by commercial independent truckers located in Carlsbad, New Mexico. The water will be hauled over existing and re-furbished roads to the location.

6. **Source of Construction Material**

Caliche for the road and well pad will be from a designated caliche pit.

7. **Methods of Handling Waste Disposal**

A. Drilled cement cutting and mud, if any, from the re-entry operations will trucked to a permitted SWD, or an approved mud disposal site. No open dirt pits will be used in the re-entry operation.

B. Trash, waste paper, garbage and junk will be contained in a fenced trash trailer to prevent scattering by the wind and hauled to a municipal sanitary landfill. All sacked drilling mud will be recovered by the supplier. No chemicals are anticipated for use.

C. Toilet facilities will be provided for human waste. Sewage disposal facilities will be in accordance with State and Local Regulations.

D. No fluids are anticipated to be produced during re-entry and testing, but should any be recovered they will be temporarily stored in re-entry tankage and promptly removed to an appropriate SWD disposal facility.

8. **Auxiliary Facilities**

No new facilities well be built during re-entry of this well.

9. **Wellsite Layout**

A. The wellsite layout is anticipated to not exceed about 125' x 125'.

B. No pits will be dug or used.

C. No cuts or fills will be required.

10. **Plans for Reclamation of the Surface**

A. In a timely manner, after finishing the re-entry and/or completion, all equipment and materials not needed for disposal will be removed. The location will be cleared of all trash and debris. Any ruts, etc., will be filled. The cellar will be filled around the wellhead. Re-vegetation procedures will comply with BLM standards.

B. Upon abandonment of the well, surface restoration will be in accordance with the surface owner requirements and will be accomplished as expediently as possible.

11. **Surface Ownership**

The surface for the wellsite is on BLM surface and administered by the BLM.

12. **Additional Information**

A. The topography is moderate to gently rolling sand hills.

B. Vegetation includes mesquite, catclaw, cresote, broomweed, and sparse grasses.

C. The soil is very-slightly loamy sand and extremely thin.

D. Primary surface use of the land is livestock grazing and accessing producing wells.

E. There are no dwellings in the vicinity.

F. The selected dirt contractor will be furnished with an approved copy of the Surface Use Plan and any additional stipulations prior to commencing any work.

13. **Operator's Representatives**

Kay Havenor
Havenor Operating Company
200 W. 1st St., Suite 747
Roswell, NM 88203-4678
(575) 622-0283

Certification

I hereby certify that I have inspected the drillsite and access route, that I am familiar with the conditions that currently exist, that the statements made in this plan are, to the best of my knowledge, true and correct. The work associated with the operations proposed herein will be performed by Havenor Operating Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for filing of a false statement.

Kay Havenor

Kay Havenor, President

4/19/2010
Date

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	HAVENOR OPERATING COMPANY
LEASE NO.:	LC028936D
WELL NAME & NO.:	SOUTH LOCO HILLS FED DISPOSAL # 1
SURFACE HOLE FOOTAGE:	0660' FSL & 2220' FEL
BOTTOM HOLE FOOTAGE	SAME
LOCATION:	Section 31 , T. 17 S., R 30 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

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

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

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. V-DOOR DIRECTION: This is a re entry and a work over rig will be used, so no v-door needs to be designated.

C. TOPSOIL

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be used for interim and final reclamation.

D. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

E. FEDERAL MINERAL MATERIALS PIT

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

F. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

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

G. ON LEASE ACCESS ROADS

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

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

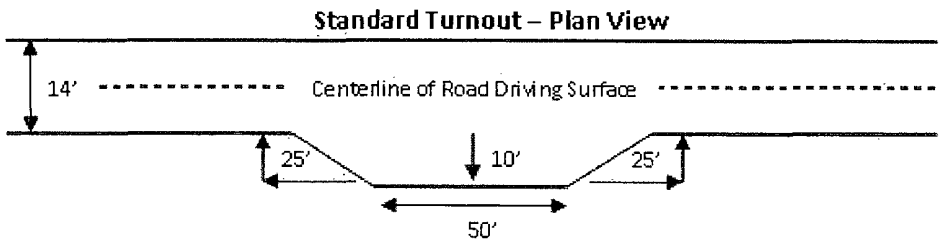
Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

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

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

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

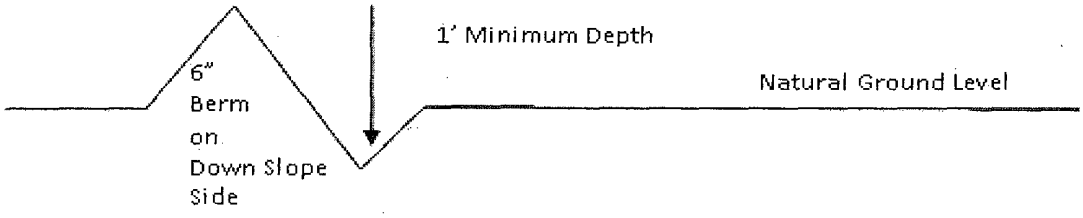
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

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

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

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

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

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

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

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

I. DRILLING – RE-ENTRY (The former Enron - Sand Tank 31 Federal Com#1)

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. BOPE test
b. CIT test

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

1. **Hydrogen Sulfide has been reported as a hazard. It is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide. If Hydrogen Sulfide is encountered, please report measurements and formations to the BLM.**

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

B. CASING – Re-entry

All CIT are to be performed as stated in the procedure and per Onshore Oil and Gas Order 2.III.B.1.h.

1. **The 11-3/4 inch surface casing is set at 650 feet with cement circulated to surface.**

2. **The 8-5/8 inch intermediate casing is set at 3981 feet with cement circulated to surface.**

3. **The 5-1/2 inch production casing is set at 12957 feet with TOC reported at 10000 feet and 2410 feet by CBL (DV tool at 8438 feet) with the 5-1/2 inch cut & pulled at 1909 feet. There are plugs at 12595 feet, 10950 feet, 8000 feet, 7700 feet, 3931 feet, 1841-1959 feet, 600-700 feet and from 50 feet to surface. The 5-1/2 inch will be tied-into and cemented to surface with 600 sx Class C. A CBL shall be run from 10000 feet to surface by the operator to verify TOC. This will also add to information that will be required when the well is plugged.**

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

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

3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips or where the float does not hold, the minimum wait time before cut-off is eight hours after bumping the plug or when the cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. BOP/BOPE testing can begin after the above conditions are satisfied.

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) prior to initiating the test.

    c. The results of the test shall be reported to the appropriate BLM office.

    d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

    e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

RGH 091010

II. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures
The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

VRM Facility Requirement
Low-profile tanks not greater than eight-feet-high shall be used.

B. PIPELINES

SURFACE INSTALLED PIPELINE STIPULATIONS FOR CARLSBAD FIELD OFFICE, BLM

A copy of the grant and attachments, including stipulations and map, will be on location during construction. BLM personnel may request to view a copy of your permit during construction to ensure compliance with all stipulations.

The holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer, BLM.

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, *et. seq.*) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.)

3. Additionally, any release of toxic substances (leaks, spills, *etc.*) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by

the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b.

4. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et. seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et. seq.*) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec.**2803/2883**.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from fire or soil movement (including landslides and slumps as well as wind and water caused movement of particles) caused or substantially aggravated by any of the following within the right-of-way or permit area:

A. Activities of the holder, including but not limited to, construction, operation, maintenance, and termination of the facility.

B. Activities of other parties including but not limited to:

(1). Land clearing.
(2). Earth-disturbing and earth-moving work.
(3). Blasting.
(4). Vandalism and sabotage.

C. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction of in which the damage of injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from the negligent acts of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline or related facilities, any oil or other pollutant should be discharged from the

pipeline or from containers or vehicles impacting Federal lands, the control and total removal, disposal, and cleanup of such oil of other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting there from, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

6. The holder shall conduct all activities associated with the construction, operation, and termination of the right-of-way within the authorized right-of-way width of 30 feet.

7. **No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.**

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky or dune areas, the pipeline will be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried a minimum of 36 inches under all roads, including "two-tracks" and trails. Burial will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of the construction, shall be returned to at least its former state, with no bumps, dips, or soft spots remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair impacted improvements to at least their former state. The holder shall contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence will be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder shall install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound management practices. Any earth work will require prior approval by the Authorized Officer.

12. Excluding the pipe, all above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color that simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for this project is Shale Green, Munsell Soil Color Chart Number 5Y 4/2.

13. **The holder shall post signs designating the BLM serial number assigned to this right-of-way grant at the following locations: the points of origin and completion, or entry to and exit from public lands, of the right-of-way and at all major road crossings. These signs will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the term of the right-of-way.**

14. The holder shall not use the right-of-way as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder shall take whatever steps are necessary to ensure that the right-of-way is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and the Authorized Officer will make any decision as to the proper mitigation measures after consulting with the holder.

16. The area will be kept free of the following plant species: Malta starthistle, African rue, Scotch thistle, and saltcedar.

17. **Special Stipulations**:

The project is identified as habitat for the lesser prairie chicken; therefore, all construction activities will be restricted to the hours of 9:00 am through 3:00 am for the period of March 1st through June 15th. No construction should occur between 3:00 AM and 9:00 AM.

STIPULATIONS FOR FLPMA SITES

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this right-of-way.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, *et. seq.*) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, *etc.*) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b.

A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et. seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et. seq.*) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the site any pollutant should be discharged from site facilities, or from containers, or vehicles impacting public lands, the control and total removal, disposal, and cleanup of such pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting public lands, or to repair all damages to public lands resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

5. Sites shall be maintained in an orderly, sanitary condition at all times. Waste materials, both liquid and solid, shall be disposed of promptly at an appropriate, authorized waste disposal facility in accordance with all applicable State and Federal laws. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, and equipment.

6. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for this project is Shale Green, Munsell Soil Color Chart Number 5Y 4/2.

7. The holder shall post a sign designating the BLM serial number assigned to this right-of-way grant in a permanent, conspicuous location on the site where the sign will be visible from the entry to the site. This sign will be maintained in a legible condition for the term of the right-of-way.

8. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer.

The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

9. Should the holder require a base of mineral material, a sales contract for removal of mineral material (caliche, sand, gravel, fill dirt) from an authorized pit, site, or on location must be obtained from the BLM prior to commencing construction. There are several options available for purchasing mineral material: contact the BLM office.

10. The area will be kept free of the following plant species: Malta starthistle, African rue, Scotch thistle, and saltcedar.

Special Stipulations:

1. The Authorized Officer for the BLM, Carlsbad Field Office, will be contacted at (505-234-5972) for full restoration of the monitoring well prior to abandonment.

2. The project is identified as habitat for the lesser prairie chicken; therefore, all construction activities will be restricted between the hours of 3:00 am through 9:00 am for the period of March 1st through June 15th.

2. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

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

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

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

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

X. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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

Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A
**Four-winged Saltbush	5lbs/A

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

*Pounds of pure live seed:

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