RECEIVED DEC 3 0. 2011 Form 3160-3 (April NIN) OCD ARTESIA

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UNITED STATES

SECRETARY'S POTASH

FORM APPROVED OMB No. 1004-0137 Expires March 31, 2007 40

DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

54 NM-120897 OH NM82896

-		_	-	•			•	, ,	•
				_	_		_		_
6.	If Indian	, Allotee	O٢	T	rit	e	N	am	e

la. Type of work: X DRILL REENT	ER NOS	RCVD 7/1/1	/	7 If Unit or CA A	greement, N	lame and No.
lb. Type of Well: X Oil Well Gas Well Other	X Si	ngle ZoneMulti	ple Zone	8. Lease Name at SILVERSTREA	K "13"	# 2H FED. CO
2. Name of Operator				9. API Well No.	6	37755
OGX RESOURCES, LLC. (JEFF BIRKELBAC	H 432-68	35-1287)		30-015-	39820	う
3a. Address). (înclude area code)		10. Field and Pool,		
P. O. BOX 2064 MIDLAND, TEXAS 79702	432-6	685–1287		POKER LAKE	DELAWAF	RE SW.
4. Location of Well (Report location clearly and in accordance with an	ry State requiren	nents.*)		11. Sec., T. R. M. o	Blk. and St	irvey or Area
At surface 400' FSL & 990' FWL SECTION 13	T24S-R	30E EDDY CO	. NM			
At proposed prod. zone 330' FNL & 990' FWL SE	CTION 13	T24S-R30E		SECTION 13	T24S-	-R30E
14. Distance in miles and direction from nearest town or post office*				12. County or Paris	1	13. State
Approximately 20 miles East of Carlsba	d New Me	xico		EDDY CO.		NM
15. Distance from proposed*	cres in lease	17. Spacin	g Unit dedicated to thi	is well		
location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	160		1	60		
18. Distance from proposed location* 18. Distance from proposed location*	19. Proposed	Depth	20. BLM/E	BIA Bond No. on file		
to nearest well, drilling, completed, applied for, on this lease, ft. 2700: proposed PLV Will			NMB	-000244		
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approxir	nate date work will star	·t*	23. Estimated durat	ion	
3456' GL	WHEN	APPROVED		34 days	·	
	24. Attac	<u> </u>				
The following, completed in accordance with the requirements of Onshor	e Oil and Gas	Order No.1, shall be at	tached to thi	s form:		
Well plat certified by a registered surveyor. A Drilling Plan.		4. Bond to cover the Item 20 above).	e operation	as unless covered by a	n existing b	ond on file (s
3. A Surface Use Plan (if the location is on National Forest System I	Lands, the	5. Operator certific	ation :	N.		
SUPO shall be filed with the appropriate Forest Service Office).			specific info	rmation and/or plans	as may be re	quired by the
25. Signature		(Printed/Typed)			Date	. /10 /11
Title FRYT. Janua	Joe	T. Janica		<u> </u>	1 09	9/12/11
Permit Eng				, k		
Approved by (Signature) /s/ Jesse J. Juen	Name	(Printed/Typed) Jess	e J. Jue		DatDEC	2 0 2011
Till FOR CTID'STATE DIRECTOR .	Office	NM STATI	E OFFIC	E		
Application approval does not warrant or certify that the applicant holds	legal or equita	ble title to those rights	in the subje	ect lease which would	entitle the ap	plicant to

*(Instructions on page 2)

CARLBBAD CONTROLLED WATER BASIN.

SEE ATTACHED FUR CONDITIONS OF APPROVAL

Conditions of approval, if any, are attached.

NSP

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.

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED -

APPROVAL FOR TWO YEARS

Operator Certification

I hereby certify that I or someone under my direct supervision have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and federal laws applicable sto this operation; that the statements made in the APD package are, to the best of my knowledge, true and correct, and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I or, the company that I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

OPERATOR'S REPRESENTATIVES:

BERORE CONSTRUCTION

DURING AND AFTER CONSTRUCTION

TIERRA EXPLORATION, INC.

OGX RESOURCES, LLC.

P.O. BOX 2188

P. O. BOX 2064

HOBBS, NEW MEXICO 88241

MIDLAND, TEXAS 79702

JOE JANICA 575-391-850

JEFF BIRKELBACH 432-685-1287

CELL 575-390-1598

CELL 432-553-0391

NAME.

Permit Eng.

O9/12/11

DISTRICT I 1625 N. FRENCH DR., HOBBS, NM 88240 DISTRICT II 1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III 1000 RIO BRAZOS RD., AZTEC, NM 87410

DISTRICT IV 11885 S. ST. FRANCIS DR., SANTA FE, NM 87505 State of New Mexico

Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, New Mexico 87505 Form C-102 Revised July 16, 2010 Submit to Appropriate District Office

□ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name	
30-015-39820	96047	POKER LAKE DELAWARE SOUTHWEST	
Property Code	Prog	perty Name	Well Number
37755 SILVERSTREAK		13 FEDERAL COM	2H
OGRID No.	Ope	rator Name	Elevation
217955	OGX RI	ESOURCES	3456'

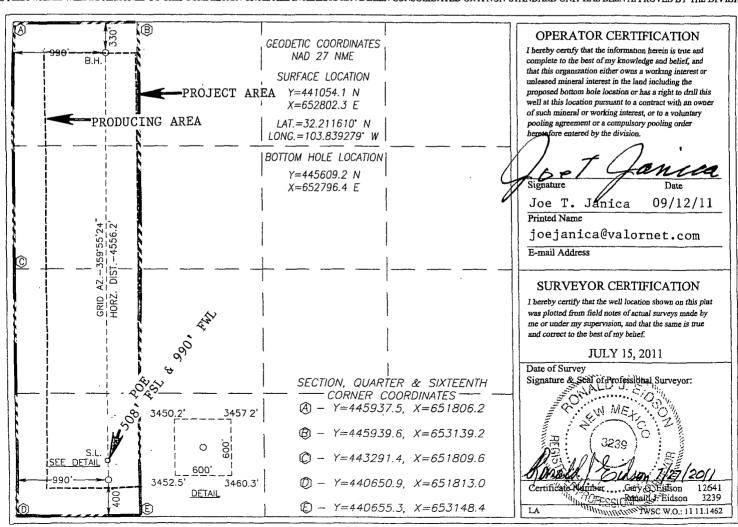
Surface Location

M 13 24-S 30-E 400 SOUTH 990 WEST EDDY	UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	M	13	24-S	30-E		400	SOUTH	990	WEST	EDDY

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
	ע	1.5	24-S	30-E		330	NORTH	990	WEST	EDDY
1	Dedicated Acres	Joint or	Infill (Consolidation C	ode Ord	er No.				
l	100	1								

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 OF THE DI



OGX RESOURCES, LLC.

SILVERSTREAK "13" FEDERAL COM. # 2H UNIT "M" SECTION 13 T24S-R30E EDDY CO. NM

In responce to questions asked under Section II of Bulletin NTL-6, the following information on the above well will be provider.

- 1. LOCATION: Surface: 400' FSL & 990' FWL SECTION 13 T24S-R30E EDDY CO. NM

 BHL: 330' FNL & 990' FWL SECTION 13 T24S-R30E EDDY CO. NM
- 2. ELEVATION ABOVE SEA LEVEL: 3456' GL
- 3. GEOLOGICAL NAME OF SURFACE FORMATION: Quaternery Aeolian Deposits;
- 4. DRILLING TOOLS AND ASSOCIATED EQUIPMENT: Conventional rotary drilling rig using drilling mud as a circulating medium for the removal of solidsfrom the hole.
- 5. PROPOSED DRILLING DEPTH: TVD-8750' MD-13,100'
- 6. ESTIMATED TOPS OF GEOLOGICAL FORMATIONS:

Rustler Anhydrite	650 '	Cherry Canyon	5060 '
Basal Anhydrite	3880'	Brushy Canyon	6340 '
Lamar Lime	4100	1st Bone Spring Sand	8020°
Bell Canyon	4130'	TVD	8750 '

7. POSSIBLE MINERAL BEARING FORMATIONS: Top of Salt 780' Base of Salt 3850'

Bell Canyon Oil/Gas/Form. Water Brushy Canyon Oil/Gas/Form. Water Cherry Canyon Oil/Gas/Form. Water Bone Spring Oil/Gas/Form. Water

Possible Water 375'

8. CASING PROGRAM:

	HOLE SIZE	INTERVAL	CASING OD	WEIGHT	THREAD	COLLAR	GRADE	CONDITION	
	26 ''	0-401	20"	NA	\ NA	NA	Conductor	New	
Sel	17½"	0-7,00.630	13 3/8"	54.5#	8-R	ST&C	J - 55	New	
11/8	121"	0-3400	9 5/8"	36#	8-R	ST&C	J - 55	New	
0,	1211	3400-4200' <i>410</i>	Ø 9 5/8"	40#	8-R	ST&C	J - 55	New	
	8 3/4"	00 - 8000*	5½"	17#	8-R	LT&C	P-110	New	
	8 3/4"	8000'-13,100'	55 <u>1</u> 11	17#	Buttress	BT&C	P-110	New	

CASING SAFETY FACTORS: Collapse 1.125 Burst 1.00 Body Yield 1.5

Joint Strength 8-Round 1.8
Buttress 1.6

OGX RESOURCES, LLC.

SILVERSTREAK "13" FEDERAL COM. # 2H

UNIT "M"

SECTION 13

T24S-R30E

EDDY CO. NM

9. CASING CEMENTING AND SETTING DEPTHS:

20" Conductor Set 40' of 20" conductor pipe and cement to surface

with Redi-mix.

13 3/8" Surface Run and set 700' of 13 3/8" 54.5# J-55 ST&C casing. Cement with 480 Sx: of 35/65/6 Class "C" Premium Plus POZ cement + 6% Bentonite, + 5% Salt, + 5% MPA-5, + .7% Soidum Metasilicate, + 5# LCM /Sx. tail in with 200 Sx. of Class "C" Premium Plus cement + 2% CaCl,

circulate cement to surface. Yield of Lead 2.00 Tail 1.34

Excess cement 65%

9 5/8" Intermediate

511

Run and set 4200' of 9 5/8" casing as follows: 800' of 9 5/8" 40# ST&C J-55, 3400' of 9 5/8" 36# ST&C

J-55 casing. Cement with 580 Sx. of 35/65 Class "C" Date of 35/65 Class "C" Da Premium Plus POZ + 4% Bentonite, + 5% Salt, + 5% MPA-5 + 0.7% Sodium Metasilicate, + 5# LCM/Sx. Yield 2.02, tail in with 200 Sx. of Class "C" cement + 2% CaCl, Yield 1.34, Estimate top of cement 600' from surface.

Calculate cement volume by caliper and then add 25% Run and set 13,100' of $5\frac{1}{2}$ " casing as follows: 5100' of 5½" 17# BT&C P-110, 8000' of 5½" 17# LT&C P-110

casing. Cement with 535 Sx. of Class "H" cement + 0.7% FL-62, + 0.4% BA-10A, + 0.1% FL-52, Yield 2.44, tail in in with 525 Sx. of 50/50 Class "C" POZ cement, + 10% Bentonite, + 5% Salt, Yield 1.33, Estimate topoof cement 2900' 500' above 9 5/8" casing shoe. Run open hole and fluid caliper calculate cement volume

then run 25% excess.

10. PRESSURE CONTROL EQUIPMENT:

Production

Exhibit "E" shows a 900 series 3000 PSI working pressure B. O. P., consisting of an annular bag type preventor, middle blind rams, and bottom pipe rams. The B. O. P. will be nippledup on the 13 3/8" casing and tested to API specifications. The B. O. P. will be operated at least once in each 24 hour period, and the blind rams will be operated when the drill pipe is out of the hole on trips. Full opening stabbing valve and upper kelly cock with proper threads will be available on the rig floor at all times. Exhibit "E-1" shows a hydraulically operated closing unit and a 5000 PSI working pressure choke manifold with dual adjustiable chokes. No abnormal pressures or temperatures are expected while drilling this well B.O.P. 13 5/8" X

OGX RESOURCES, LLC.

SILVERSTREAK "13" FEDERAL COM. # 2H
UNIT "M" SECTION 13
T24S-R30E EDDY CO. NM

11. PROPOSED MUD CIRCULATING SYSTRM:

DEPTH	MUD WI.	VISC.	FLUID LOSS	TYPE MUD SYSTEM
40-798 630	··· 8.6-8.8	36–38	NC	Fresh water Spud Mud, use paper to control seepage.
700-4200° 00° 1710°	10.0-10.1	29–30	NC	Brine water use paper to control seepage and high viscosity sweeps to clean hole.
4200-8000 '	8.4-10.0	28–29	NC	Fresh water increasing to Brine use paper to control seepage and high viscosity sweeps to clean hole.
8000-13,100'	8.4-10.0	34 – 36	12-15 cc or less	Same as above use Dynazan HB-411 and starch to control fluid loss and hole stabil-ity.

A closed mud system will be employed during the drilling of this well all cuttings and fluids will be disposed in a State approved disposal facility.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DST's, open hole logs, cut cores and casing, the viscosity, water loss and other properties may have to be altered to meet these requirements.

OGX RESOURCES, LLC.

SILVERSTREAK "13" FEDERAL COM. # 2H UNIT "M" SECTION 13

T24S-R30E EDDY CO. NM

12. LOGGING, CORING, AND TESTING PROGRAM: See COP

- A. Open hole logs: Dual Laterolog, Neutron/Density, Gamma Ray, Caliper from KOP back to 9 5/8" casing shoe. Gamma Ray, Neutron from 9 5/8" casing shoe back to surface.
- B. Mud logger will be rigged up on hole below the 13 3/8" casing and remain on the hole to TD.
- C. No cores or DST's are planned at this time.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated bottom hole presure 4170~PSI and estimated bottom hole temperature 160°

14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after The BLM approval and as soon as a rig will be available. Move in operation and drilling is expected to take 34 days. If production casing is run then an additional 30 days will be required to complete the well and construct surface production facilities.

15. OTHER FACETS OF OPERATION:

After running casing, cased hole Gamma Ray, Neutron, Collar logs will be run over the productive interval. The BONE SPRING formation will be perforated and stimulated in order to establish production, and potentialed as an oil well.

Silver Streak 13 Fed Com No.2H Nash Draw (Bone Spring) Field **Eddy County, New Mexico Drilling Procedure** Aug. 2011

General Information

Lease:

Silver Streak 13 Fed Com

AFE BCP:

Well No .:

AFE ACP:

Field:

Nash Draw

AFE Total:

County:

Eddy

AFE NO:

State:

New Mexico

API No.:

90150XX 30-015-XXXXX

Section: Township: 13 **24S** Permit Date:

XX/XX/09

Range:

30E

Permit TVD. Proposed MD: 9.000' 13,100'

Section Ties:

400' FSL & 990' FWL

32.211610" N

Drilling Days:

32 3473'

Ground Level: Latitude:

3456'

KB: Longitude

103.839279" W

Well Objectives

The primary objective of this well is to drill a Avalon shale horizontal lateral. The well will be drilled horizontal without a pilot hole.

Directions To Well

From Hwy 128 & CR #787, Go Sth on CR #787 approx 5.5 mi. / Bend Rt (St-Wst) 1.4 mi / Turn Rt (Nth) 0.8 mi / Lft (Wst) 0.7 mi / Lft (Sth) .15 mi to Nimetz 13 Fed #1 Pad / Sth to location.

Special Drilling Considerations

- 1. No hunting for game is permitted. No fire arms are to be taken to the location. Keep trash picked up on location and road.
- Do not run hard-banded or hard-faced drill pipe in casing without consulting OGX.
- 3. Cement must be circulated on surface and intermediate. If cement does not circulate, run a temperature survey and contact the BLM and Operations Engineer for remedial instructions.
- 4. BOP equipment will be NU on the 13-3/8" surface casing. All safety and well control equipment should be rigged up and operational prior to drilling out the 13-3/8" casing shoe.

DRILLING PROGRAM

Geologic Name of Surface Formation:

Permian

FORMATION TOPS / ANTICIPATED FRESH WATER, OIL, or GAS / PRESSURES

Formation	<u>Depth</u>	Frm Pres	<u>Remarks</u>
Rustler	650'	280#	Water
Basal Anhydrite	3880'	1680#	Water
Lamar	4100'	1775#	Water
Bell Canyon	4130'	1780#	Oil / Gas / Formation water
Cherry Canyon	5060'	2190#	Oil / Gas / Formation water
Brushy Canyon	6340'	2745#	Oil / Gas / Formation water
1 st BSS	8020'	3820#	Oil / Gas / Formation water
TVD	8750'	4170#	

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13 3/8" casing at 700' and circulating cement back to surface. Potash/ fresh water sands will be protected be setting 9 5/8" casing at 4200' and circulating cement to surface. The hydrocarbon producing intervals will be isolated by setting 5 ½" casing to total depth and circulating cement 500' above the base of the 9 5/8" casing.

CASING PROGRAM:

HOLE SIZE	DEPTH	OD Csg	WEIGHT	COLLAR	GRADE	NEW/USED
17 ½" 12 ¼" 12 ¼" 8 ¾" 8 ¾"	0-790 636 0-3400' 3400'-4200' 0-8000' MI 8000'-13100'	9 5/8" 9 5/8" D 5 ½"	54.5 36 40 17 17	STC STC STC LTC BTC	J55 J55 J55 P110 P110	New New New New New

(5 ½" BTC will be run thru the curve & Lateral)

DEPTH	OD Csg	WEIGHT	factors: Burst /	Collapse	/ Tension
0-7,00°	13 3/8"	54.5	1.1	2.6	11.4
0-3400'	9 5/8"	36	1.12	1.12	2.8
3400'-4200'	9 5/8"	40	1.34	1.36	22.6
0-13100' MD	5 ½"	17	1.25	1.42	1.67

(51/2 Burst & Collapse Calculated @ 8750' TVD)

CEMENT PROGRAM:

13 3/8" Surface

Cement Properties	Lead	Tail
Est Volume (sacks)	480	200
Density (ppg)	12.80	14.80
Yield (ft3/sx)	2.00	1.34
Mix Water, gps	10.21	6.36
Thickening Time, hrs:min		~3:30
Free Water, %		0
Fluid Loss, cc's		~850
Top of Cement	surface	

9 5/8" Intermediate

Spacer	30 bbls of fresh water
Lead	
	Sodium Metasilicate + 5 lbs LCM + 99.6% fresh water
Tail	

Cement Properties

	<u>Lead</u>	<u>l ail</u>
Est Volume (sacks)	580	200
Density (ppg)	12.7	14.8
Yield (ft3/sx)	2.02	1.34
Mix Water, gps	10.39	6.36
Thickening Time, hrs:min	4:07	3:32
Free Water, %	2.0	0
Fluid Loss, cc's	~750	~600
Top of Cement	₂ 600	
	See COA	

A FLUID CALIPER WILL BE RUN TO DETERMINE EXACT VOLUMES & 25% EXCESS WILL BE ADDED

5 1/2" Production

Slurry Composition

Spacer	.30 bbls FW
Lead	Premium Plus H + .7% FL-62 + .4% BA-10A + .1% FL-52 + 45.8% Fresh water
Tail	.50:50 Poz C + 10% Bentonite + 5% NaCl + 139.7% Fresh water

Cement Properties

	<u>Lead</u>	<u>Tail</u>
Estimated Volume, sx	535	525
Density, ppg	, 11.8	14.8
Yield, cf/sk	2.44	1.33
Mix water required, gps	14.07	6.33
Free Water, %		
Fluid Loss, cc	38	600
Top of cement, ft	9 5/8" csg + 500' (above 28	0 ර')

The above cement volumes will be revised pending fluid and open hole caliper measurements.

MUD PROPERTIES SUMMARY:

Depth (feet)	TOTAL TOTAL CONTRACTOR OF THE PROPERTY OF THE	Viscosity (sec/1000cc)	Fluid Loss (cc/30min)	PV (cps)	YP (lb/100ff ²)*.	Mud Type
0' – 780' Set 13-3/8" Casing	8.6 – 8.8	36 – 38	N/C	6 – 10	6 – 20	Spud Mud
7,00' 4,200'	10.0 – 10.1	29 – 30	N/C	0 – 1	0 – 1	Brine
Set 9-5/8" Casing						
4,200' – 8,000' TVD Vertical Hole	8.4 – 10.0	28 – 29	N/C	0 – 1	0 – 1	Fresh Water To Brine
8,000' – 13,100' MD Set 5-1/2"	8.4 – 10.0	34 – 36	12 – 15	4 – 8	4 8	Dynazan / Starch HB 411

Auxiliary Well Control & Monitoring Equipment:

A Kelly cock will be in the drill string at all times.

A full opening drill pipe stabbing valve having the appropriate connections will be on the floor at all times.

 H_2S detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 5 $\frac{1}{2}$ " csg is cemented.

LOGGING, CORING, AND TESTING

See COA

No logs at surface.

Mud loggers on below 13 3/8" casing shoe - no electric logs at intermediate depth

The Vertical hole will be logged @ Kick Off: Gyro / GR / Dual Laterolog / Neutron-Density / Caliper Sidewall cores at depths TBD

No DST's or pressure testing is anticipated.

The horizontal lateral will be mud logged and GR via MWD.

Potential Hazards:

No abnormal pressures or temperatures are expected. There is no known presence of H_2S in this area. If H_2S is encountered the operator will comply with the provisions of Onshore Oil & Gas Order No.6. No loss circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP is 4170 psi. & BHT is $160^{\circ}F$.

Anticipated Starting Date & Duration:

Road and location construction will begin after the BLM has approved the APD. Move in and drilling operations will take 34 days with an additional 30 days to complete the well and construct production facilities.



Project: Eddy County, New Mexico Site: Silverstreak 13 Federal Com Well: Silverstreak 13 Fed Com 2H Wellbore: Wellbore #1 Plan: Plan #1 080311 Rig: Silver Oak 11

WELL DETAILS: Silverstreak 13 Fed Com 2H

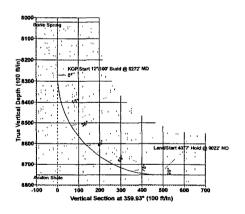
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Easting Latitude Longitude
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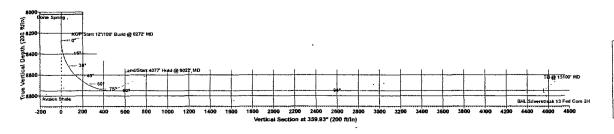
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MD	Inc	Azı	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	
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9022 54	90 00	359 93	8750 00	477 47	-0 62	12.00	359 93	477 47	
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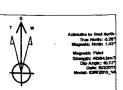
FORMATIO	N TOP DETAILS
TVDPath MDPath 3880 00 3880 00 4100 00 4100 00 4130 00 4130 00 5060 00 5060 00	Formation Basal Anyydnte Lamar Bell Canyon Cherry Canyon

		ANI	NOTATIONS
8272 8750	00	9022 54	Annotation KOP Start 12"/100' Build @ 8272' MI Land/Start 4077' Hold @ 9022' MD TD @ 13100' MD

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OGX Resources

Project: Eddy County, New Mexico Site: Silverstreak 13 Federal Com Well: Silverstreak 13 Fed Com 2H

Wellbore: Wellbore #1





Plan: Plan #1 080311 (Silverstreak 13 Fed Com 2H/Wellbore #1)

SECTION DETAILS

+E/-W DLeg TVD +N/-S VSec Target MD Inc Azi TFace 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 8272.53 0.00 0.00 8272.53 0.00 0.00 0.00 0.00 0.00 9022.54 90.00 359.93 8750.00 477.47 -0.62 12.00 359.93 477.47 13100.18 90.00 359.93 8750.00 4555.11 0.00 -5.90 0.004555.11 BHL Silverstreak 13 Fed Com 2H

WELL DETAILS: Silverstreak 13 Fed Com 2H

Ground Level: 3456.00

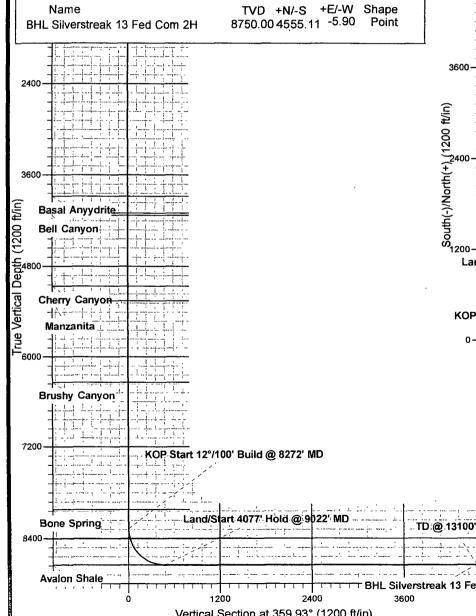
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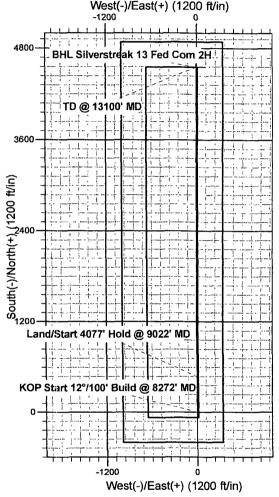
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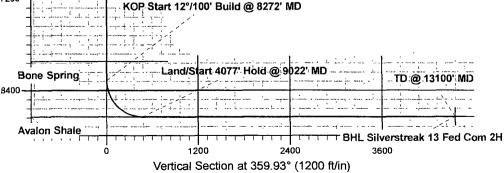
41054.10 652802.30

32° 12' 41.79 N 103° 50' 21.40 W

WELLBORE TARGET DETAILS







OGX Resources

Eddy County, New Mexico Silverstreak 13 Federal Com Silverstreak 13 Fed Com 2H Wellbore #1

Plan: Plan #1 080311

OGX Resources

03 August, 2011



OGX Resources



OGX Resources Company:

Project: Eddy County, New Mexico

Site: Silverstreak 13 Federal Com Silverstreak 13 Fed Com 2H Well:

Wellbore Wellbore #1 *

Design: Plan #1 080311 Local Co-ordinate Reference: Well Silverstreak 13 Fed Com 2H

TVD Reference: WELL @ 3474 00ft (Original Well Elev + 18' KB) MD Reference: WELL @ 3474,00ft (Original Well Elev + 18' KB)

North Reference:

Survey Calculation Method: Minimum Curvature

Eddy County, New Mexico

US State Plane 1927 (Exact solution) Map System:

NAD 1927 (NADCON CONUS) Geo Datum:

System Datum: Mean Sea Level

New Mexico East 3001 Map Zone:

Site Position: From:

Map

Northing: Easting:

441,054.10 ft 652,802.30 ft

Latitude: Longitude:

32° 12' 41.79 N 103° 50' 21.40 W

Position Uncertainty:

0.00 ft

Slot Radius:

0.26° **Grid Convergence:**

Silverstreak 13 Fed Com 2H.

Well Position

+N/-S +E/-W

0.00 ft 0.00 ft

Northing: Easting:

441,054.10 ft 652,802.30 ft Latitude: Longitude:

32° 12' 41.79 N 103° 50' 21.40 W

Position Uncertainty

Wellhead Elevation:

Ground Level:

3,456.00 ft

Magnetics

IGRF2010_14

Declination:

0.00

Dip Angle

Field Strength

Audit Notes:

Vertical Section:

Version:

PLAN Phase:

0.00

Tie On Depth:

0.00

+E/-W. Direction-

Depth From (TVD)

0.00

Date 8/3/2011

Survey Tool Program

(ft) Survey (Wellbore) 13,100.18 Plan #1 080311 (Wellbore #1)

MWD

MWD - Standard

OGX Resources



WELL @ 3474.00ft (Original Well Elev + 18' KB)

WELL @ 3474.00ft (Original Well Elev + 18' KB)

Company: OGX Resources

Project: Eddy County, New Mexico Site: Silverstreak 13 Federal Com Silverstreak 13 Fed Com 2H Wellbore: Wellbore #1

Plan #1 080311

Local Co-ordinate Reference: Well Silverstreak 13 Fed Com 2H TVD Reference.

MD Reference: North Reference:

Survey Calculation Method: Minimum Curvature

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MD	inc Azi ((azimuth)	TVDSS	TVD	N/S	E/W		DLeg	Northing	Easting
(ft)	c (°)	Z(°)Z-3-2-2-17	(ft)	(ft)	(ft)	(ft)	(ft) (f	'/100ft).	(ft) = 1	是有(ft)。
0.00	0.00	0.00	-3,474.00	0.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
100.00	0.00	0.00	-3,374.00	100.00	0.00	0.00	0.00	0 00	441,054.10	652,802 30
200.00	0.00	0.00	-3,274.00	200.00	0.00	0.00	0.00	0.00	441,054.10	652,802 30
300.00	0.00	0.00	-3,174.00	300.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
400.00	0.00	0.00	-3,074.00	400.00	0.00	0.00	0.00	0 00	441,054.10	652,802.30
500.00	0.00	0.00	-2,974.00	500.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
600.00	0.00	0.00	-2,874.00	600.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
700.00	0.00	0.00	-2,774.00	700.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
800.00	0.00	0.00	-2,674.00	800.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
900.00	0.00	0.00	-2,574.00	900.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
1,000.00	0.00	0.00	-2,474.00	1,000.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
1,100.00	0.00	0.00	-2,374.00	1,100.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
1,200.00	0.00	0.00	-2,274.00	1,200.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
1,300.00	0.00	0.00	-2,174.00	1,300.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
1,400.00	0.00	0.00	-2,074.00	1,400.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
1,500.00	0.00	0.00	-1,974.00	1,500.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
1,600.00	0.00	0.00	-1,874.00	1,600.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
1,700.00	0.00	0.00	-1,774.00	1,700.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
1,800.00	0.00	0.00	-1,674.00	1,800.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
1,900.00	0.00	0.00	-1,574.00	1,900.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
2,000.00	0.00	0.00	-1,474.00	2,000.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
2,100.00	0.00	0.00	-1,374.00	2,100.00	0.00	0.00	0.00	0.00	441,054.10	652,802 30
2,200.00	0.00	0.00	-1,274.00	2,200.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
2,300.00	0.00	0.00	-1,174.00	2,300.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
2,400.00	0.00	0.00	-1,074.00	2,400.00	0.00	0.00	0.00	0.00	441,054.10	652,802 30
2,500.00	0.00	0.00	-974.00	2,500.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30
2,600.00	0.00	0.00	-874.00	2,600.00	0.00	0.00	0.00	0.00	441,054.10	652,802.30

OGX Resources



Company:

OGX Resources

*Project: Eddy County, New Mexico Site: Silverstreak 13 Federal Com Silverstreak 13 Fed Com 2H Well:

Wellbore: Wellbore #1 Design: Plan #1 080311 . Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference:

Survey Calculation Method: Database:

WELL @ 3474.00ft (Original Well Elev + 18' KB)

Minimum Curvature

Well Silverstreak 13 Fed Com 2H

WELL @ 3474 00ft (Original Well Elev + 18' KB)

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2,700.00	0.00	0.00	-774.00	2,700.00	0.00	0.00	0.00	0.00	441,054.10	652,
2,800.00	0.00	0.00	-674.00	2,800.00	0.00	0.00	0.00	0.00	441,054.10	652,
2,900.00	0.00	0.00	-574.00	2,900.00	0.00	0.00	0.00	0.00	441,054.10	652,
3,000.00	0.00	0.00	-474.00	3,000.00	0.00	0.00	0.00	0.00	441,054.10	652,
3,100.00	0.00	0.00	-374.00	3,100.00	0.00	0.00	0.00	0.00	441,054.10	652,
3,200.00	0.00	0.00	-274.00	3,200.00	0.00	0.00	0.00	0.00	441,054.10	652,
3,300.00	0.00	0.00	-174.00	3,300.00	0.00	0.00	0.00	0.00	441,054.10	652,
3,400.00	0.00	0.00	-74.00	3,400.00	0.00	0.00	0.00	0.00	441,054.10	652,
3,500.00	0.00	0.00	26.00	3,500.00	0.00	0.00	0.00	0.00	441,054.10	652,
3,600.00	0.00	0.00	126.00	3,600.00	0.00	0.00	0.00	0.00	441,054.10	652,
3,700.00	0.00	0.00	226.00	3,700.00	0.00	0.00	0.00	0.00	441,054.10	652,
3,800.00	0.00	0.00	326.00	3,800.00	0.00	0.00	0.00	0.00	441,054.10	652,
3,880.00	0.00	0.00	406.00	3,880.00	0.00	0.00	0.00	0.00	441,054.10	652,
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3,900.00	0.00	0.00	426.00	3,900.00	0.00	0.00	0.00	0.00	441,054.10	652,
4,000.00	0.00	0.00	526.00	4,000.00	0.00	0.00	0.00	0.00	441,054.10	652;
4,100.00	0.00	0.00	626.00	4,100.00	0.00	0.00	0.00	0.00	441,054.10	652,
Lamar					, to all to the		•			
4,130.00	0.00	0.00	656.00	4,130.00	0.00	0.00	0.00	0.00	441,054.10	652,
Bell Canyon 4,200.00	0.00	0.00	706.00	4 200 00	0.00	0.00				
4,200.00	0.00	0.00	726.00	4,200.00	0.00	0.00	0.00	0.00	441,054.10	652,
4,300.00	0.00	0.00	826.00	4,300.00	0.00	0.00	0.00	0.00	441,054.10	652,
4,400.00	0.00	0.00	926.00	4,400.00	0.00	0.00	0.00	0.00	441,054.10	652,8
4,500.00	0.00	0.00	1,026.00	4,500.00	0.00	0.00	0.00	0.00	441,054.10	652,
4,600.00	0.00	0.00	1,126.00	4,600.00	0.00	0.00	0.00	0.00	441,054.10	652,
4,700.00	0.00	0.00	1,226.00	4,700.00	0.00	0.00	0.00	0.00	441,054.10	652,
4,800.00	0.00	0.00	1,326.00	4,800.00	0.00	0.00	0.00	0.00	441,054.10	652,8

OGX Resources



Company:

OGX Resources

Project: Site:

Eddy County, New Mexico Silverstreak 13 Federal Com Silverstreak 13 Fed Com 2H

Well: Wellbore: Design:

Wellbore #1 Plan #1 080311 Local Co-ordinate Reference:

TVD Reference:

MD Reference: North Reference:

Survey Calculation Method: Database:

Well Silverstreak 13 Fed Com 2H

WELL @ 3474.00ft (Original Well Elev + 18' KB) WELL @ 3474.00ft (Original Well Elev + 18' KB)

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MD (ft)	The state of the state of the state of the	azimuth) (°)	TVDSS	TVD (ft)	N/S (ft)	ar in the same and the	والمنابع تنافح الزماري وبالعق والقرفي المدر متعاود التوك الأصفاء الماتشان	DLeg /100ft)	Northing (ft)	Eastin (ft)
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5,000.00	0.00	0.00	1,526.00	5,000.00	0.00	0.00	0.00	0.00	441,054.10	652
5,060.00	0.00	0.00	1,586.00	5,060.00	0.00	0.00	0.00	0.00	441,054.10	652
Cherry Canyon	٠.				4 3 3 3 3 3 3 3 3	·				
5,100.00	0.00	0.00	1,626.00	5,100.00	0.00	0.00	0.00	0.00	441,054.10	652
5,200.00	0.00	0.00	1,726.00	5,200.00	0.00	0.00	0.00	0.00	441,054.10	652
5,250.00	0.00	0.00	1,776.00	5,250:00	0.00	0.00	0.00	0.00	441,054.10	652
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5,300.00	0.00	0.00	1,826.00	5,300.00	0.00	0.00	0.00	0.00	441,054.10	. 652
5,400.00	0.00	0.00	1,926.00	5,400.00	0.00	0.00	0.00	0.00	441,054.10	652
5,500.00	0.00	0.00	2,026.00	5,500.00	0.00	0.00	0.00	0.00	441,054.10	652
5,600.00	0.00	0.00	2,126.00	5,600.00	0.00	0.00	0.00	0.00	441,054 10	652
5,700.00	0.00	0.00	2,226.00	5,700.00	0.00	0.00	0.00	0.00	441,054.10	652
5,800.00	0.00	0.00	2,326.00	5,800.00	0.00	0.00	0.00	0.00	441,054.10	652
5,900.00	0.00	0.00	2,426.00	5,900.00	0.00	0.00	0.00	0.00	441,054.10	652
6,000.00	0.00	0.00	2,526.00	6,000.00	0.00	0.00	0.00	0.00	441,054.10	652
6,100.00	0.00	0.00	2,626.00	6,100.00	0.00	0.00	0.00	0.00	441,054.10	652
6,200.00	0.00	0.00	2,726.00	6,200.00	0.00	0.00	0.00	0.00	441,054.10	652
6,300.00	0.00	0.00	2,826.00	6,300.00	0.00	0.00	0.00	0.00	441,054.10	652
6,340.00	0.00	0.00	2,866.00	6,340.00	0.00	0.00	0.00	0.00	441,054.10	652
Brushy Canyon		• . •	of English ()	Charles to the	and the state of		٠.			
6,400.00	0.00	0.00	2,926.00	6,400.00	0.00	0.00	0.00	0.00	441,054.10	652
6,500.00	0.00	0.00	3,026.00	6,500.00	0.00	0.00	0.00	0.00	441,054.10	652
6,600.00	0.00	0.00	3,126.00	6,600.00	0.00	0.00	0.00	0.00	441,054.10	652
6,700.00	0.00	0.00	3,226.00	6,700.00	0.00	0.00	0.00	0.00	441,054.10	652
6,800.00	0.00	0.00	3,326.00	6,800.00	0.00	0.00	0.00	0.00	441,054.10	652
6,900.00	0.00	0.00	3,426.00	6,900.00	0.00	0.00	0.00	0.00	441,054.10	652,

OGX Resources



Company: OGX Resources

Project: Eddy County, New Mexico Site: Silverstreak 13 Federal Com Well: Silverstreak 13 Fed Com 2H

Wellbore: Wellbore #1 Design: Plan #1 080311 Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Database:

GCR3

Well Silverstreak 13 Fed Com 2H

WELL @ 3474.00ft (Original Well Elev + 18' KB) WELL @ 3474.00ft (Original Well Elev + 18' KB)

Grid

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MD (ft)	and are a single the ball to see it that the first and the	azimuth) (°)	TVDSS (ft)	TVD (ft)	N/S (ft)	E/W (ft)	the second secon	DLeg (100ft)	Northing (ft)	Easting
7,000.00	0.00	0.00	3,526.00	7,000.00	0.00	0.00	0.00	0.00	441,054.10	652,802.3
7,100.00	0.00	0.00	3,626.00	7,100.00	0.00	0.00	0.00	0.00	441,054.10	652,802.
7,200.00	0.00	0.00	3,726.00	7,200.00	0.00	0.00	0.00	0.00	441,054.10	652,802.
7,300.00	0.00	0.00	3,826.00	7,300.00	0.00	0.00	0.00	0.00	441,054.10	652,802.
7,400.00	0.00	0.00	3,926.00	7,400.00	0.00	0.00	0.00	0.00	441,054.10	652,802.
7,500.00	0.00	0.00	4,026.00	7,500.00	0.00	0.00	0.00	0.00	441,054.10	652,802.
7,600.00	0.00	0.00	4,126.00	7,600.00	0.00	0.00	0.00	0.00	441,054.10	652,802.
7,700.00	0.00	0.00	4,226.00	7,700.00	0.00	0.00	0.00	0.00	441,054.10	652,802.
7,800.00	0.00	0.00	4,326.00	7,800.00	0.00	0.00	0.00	0.00	441,054.10	652,802.
7,900.00	0.00	0.00	4,426.00	7,900.00	0.00	0.00	0.00	0.00	441,054.10	652,802.
8,000.00	ò.00	0.00	4,526.00	8,000.00	0.00	0.00	0.00	0.00	441,054.10	652,802
8,020.00	0.00	0.00	4,546.00	8,020.00	0.00	0.00	0.00	0.00	441,054.10	652,802
Bone Spring		, ••	1. 1. 1. 1. 1.							
8,100.00	0.00	0.00	4,626.00	8,100.00	0.00	0.00	0.00	0.00	441,054.10	652,802
8,200.00	0.00	0.00	4,726.00	8,200.00	0.00	0.00	0.00	0.00	441,054.10	652,802
8,272.53	0.00	0.00	4,798.53	8,272.53	0.00	0.00	0.00	0.00	441,054.10	652,802
KOP Start 12°/100' i	Bulld @ 8272' MD		5 15 N.					•		
8,300.00	3.30	359.93	4,825.98	8,299.98	0.79	0.00	0.79	12.00	441,054.89	652,802
8,400.00	15.30	359.93	4,924.49	8,398.49	16.91	-0.02	16.91	12.00	441,071.01	652,802
8,500.00	27.30	359.93	5,017.49	8,491.49	53.17	-0.07	53.17	12.00	441,107.27	652,802
8,600.00	39.30	359.93	5,100.92	8,574.92	107.96	-0.14	107.96	12.00	441,162.06	652,802
8,700.00	51.30	359,93	5,171.14	8,645.14	178.91	-0.23	178.91	12.00	441,233.01	652,802
8,800.00	63.30	359,93	5,225.07	8,699.07	262.90	-0.34	262.90	12.00	441,317.00	652,801
8,900.00	75.30	359,93	5,260.36	8,734.36	356.27	-0.46	356.27	12,00	441,410.37	652,801
9,000.00	87.30	359.93	5,275.47	8,749.47	454.94	-0.59	454.94	12.00	441,509.04	652,801
9,022.54	90.00	359.93	5,276.00	8,750.00	477.47	-0.62	477.47	12.00	441,531.56	652,801.
Land/Start 4077' Ho		*	Sec. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.		Section 1					
9,100.00	90.00	359.93	5,276.00	8,750.00	554.93	-0.72	554 93	0.00	441,609 03	652,801.5

OGX Resources



OGX Resources Company:

Project: Eddy County, New Mexico Silverstreak 13 Federal Com Site: 🌣 Well: Silverstreak 13 Fed Com 2H .Wellbore: Wellbore #1

Design: Plan #1 080311 Local Co-ordinate Reference: TVD Reference:

North Reference: Database:

MD Reference: Survey Calculation Method: Section of the second of the s Well Silverstreak 13 Fed Com 2H

WELL @ 3474.00ft (Original Well Elev + 18' KB) WELL @ 3474 00ft (Original Well Elev + 18' KB)

Grid

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MD	Inc Azi	(azlmuth)	Total Control of the	TVD (ft)	N/S	E/W	こうさんじゅん かんきょう カイ くんをうり しょうしゅ	DLeg	Northing	Easting
9,200.00	90.00	359.93	5,276.00	8,750.00	(ft) 654.93	-0.85	(ft) 654.93	/100ft) 0.00	441,709.03	(ft) 652,801.45
9,300.00	90.00	359.93	5,276.00	8,750.00	754.93	-0.98	754.93	0.00	441,809.03	652,801.32
9,400.00	90.00	359.93	5,276.00	8,750.00	854.93	-1.11	854.93	0.00	441,909.03	652,801.19
9,500.00	90.00	359.93	5,276.00	8,750.00	954.93	-1.24	954.93	0.00	442,009.03	652,801.06
9,600.00	90.00	359.93	5,276.00	8,750.00	1,054.93	-1.37	1,054.93	0.00	442,109.03	652,800.93
			•	•	·		•		,	·
9,700.00	90.00	359.93	5,276.00	8,750.00	1,154.93	-1.50	1,154.93	0.00	442,209.03	652,800.80
9,800.00	90.00	359.93	5,276.00	8,750.00	1,254.93	-1.63	1,254.93	0.00	442,309.03	652,800.67
9,900.00	90.00	359.93	5,276.00	8,750.00	1,354.93	-1.75	1,354.93	0.00	442,409.03	652,800.55
10,000.00	90.00	359.93	5,276.00	8,750.00	1,454.93	-1.88	1,454.93	0.00	442,509.03	652,800.42
10,100.00	90.00	359.93	5,276.00	8,750.00	1,554.93	-2.01	1,554.93	0.00	442,609.03	652,800 29
10,200.00	90.00	359.93	5,276.00	8,750.00	1,654.93	-2.14	1,654.93	0.00	442,709.03	652,800.16
10,300.00	90.00	359.93	5,276.00	8,750.00	1,754.93	-2.27	1,754.93	0.00	442,809.03	652,800.03
10,400.00	90.00	359.93	5,276.00	8,750.00	1,854.93	-2.40	1,854.93	0.00	442,909.02	652,799.90
10,500.00	90.00	359.93	5,276.00	8,750.00	1,954.93	-2.53	1,954.93	0.00	443,009.02	652,799.77
10,600.00	90.00	359.93	5,276.00	8,750.00	2,054.93	-2.66	2,054.93	0.00	443,109.02	652,799 64
10,700.00	90.00	359.93	5,276.00	8,750.00	2,154.93	-2.79	2,154.93	0.00	443,209.02	652,799.51
10,800.00	90.00	359.93	5,276.00	8,750.00	2,254.93	-2.92	2,254.93	0.00	443,309.02	652,799.38
10,900.00	90.00	359.93	5,276.00	8,750.00	2,354.93	-3.05	2,354.93	0.00	443,409.02	652,799.25
11,000.00	90.00	359.93	5,276.00	8,750.00	2,454.93	-3.18	2,454.93	0.00	443,509.02	652,799.12
11,100.00	90.00	359.93	5,276.00	8,750.00	2,554.93	-3.31	2,554.93	0.00	443,609.02	652,798.99
11,200.00	90.00	359.93	5,276.00	8,750.00	2,654.93	-3.44	2,654.93	0.00	443,709.02	652,798.86
11,300.00	90.00	359.93	5,276.00	8,750.00	2,754.93	-3.57	2,754.93	0.00	443,809.02	652,798.73
11,400.00	90.00	359.93	5,276.00	8,750.00	2,854.93	-3.70	2,854.93	0.00	443,909.02	652,798.60
11,500.00	90.00	359.93	5,276.00	8,750.00	2,954.93	-3.83	2,954.93	0.00	444,009.02	652,798,47
11,600.00	90.00	359.93	5,276.00	8,750.00	3,054.93	-3.96	3,054.93	0.00	444,109.02	652,798.34
11,700.00	90.00	359.93	5,276.00	8,750.00	3,154.93	-4.09	3,154.93	0.00	444,209.02	652,798.21
11,800.00	90.00	359.93	5,276.00	8,750.00	3,254.93	-4.22	3,254.93	0.00	444,309.02	652,798 08

OGX Resources



Company:

OGX Resources.

Project: Site:

Eddy County, New Mexico Silverstreak 13 Federal Com Silverstreak 13 Fed Com 2H

Well: Wellbore:

Wellbore #1 Plan #1 080311

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference:

Survey Calculation Method:

Database:

Well Silverstreak 13 Fed Com 2H

WELL @ 3474.00ft (Original Well Elev + 18' KB) WELL @ 3474.00ft (Original Well Elev + 18' KB)

Grid

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MD	Inc Azi	i (azimuth)	TVDSS	TVD (ft)	N/S (ft)	E/W	V. Sec	DLeg (°/100ft)	Northing	Easting (ft)
11,900.00	90.00	359.93	5,276.00	8,750.00	3,354.93	-4.35	3,354.93	0.00	444,409.02	652,797.
12,000.00	90.00	359.93	5,276.00	8,750.00	3,454.93	-4.47	3,454.93	0.00	444,509.02	652,797.
12,100.00	90.00	359.93	5,276.00	8,750.00	3,554.93	-4.60	3,554.93	0.00	444,609.02	652,797.
12,200.00	90.00	359.93	5,276.00	8,750.00	3,654.93	-4.73	3,654.93	0.00	444,709.02	652,797.
12,300.00	90.00	359.93	5,276.00	8,750.00	3,754.93	-4.86	3,754.93	0.00	444,809.02	652,797
12,400.00	90.00	359.93	5,276.00	8,750.00	3,854.93	-4.99	3,854.93	0.00	444,909.02	652,797
12,500.00	90.00	359.93	5,276.00	8,750.00	3,954.93	-5.12	3,954.93	0.00	445,009.02	652,797
12,600.00	90.00	359.93	5,276.00	8,750.00	4,054.93	-5.25	4,054.93	0.00	445,109.02	652,797
12,700.00	90.00	359.93	5,276.00	8,750.00	4,154.93	-5.38	4,154.93	0.00	445,209.02	652,798
12,800.00	90.00	359.93	5,276.00	8,750.00	4,254.93	-5.51	4,254.93	0.00	445,309.02	652,79
12,900.00	90.00	359.93	5,276.00	8,750.00	4,354.93	-5.64	4,354.93	0.00	445,409.02	652,796
13,000.00	90.00	359.93	5,276.00	8,750.00	4,454.93	-5.77	4,454.93	0.00	445,509.02	652,798
13,100.00	90.00	359.93	5,276.00	8,750.00	4,554.93	-5.90	4,554.93	0.00	445,609.02	652,79
13,100.18	90.00	359.93	5,276.00	8,750.00	4,555.11	-5.90	4,555.11	0.00	445,609.20	652,796
TD @ 13100' MD	• •		- "Cario e.			* * * * * * * * * * * * * * * * * * *				

Formations	and confined the second second second section is a section of the second	The state of the s
	Vertical	Dip
Depth	Depth	Dip Direction
THE STATE OF THE S	(ft) Name	Lithology (f)
6,340.00	6,340.00 Brushy Canyon	0.00
9,022.54	8,750.00 Avalon Shale	0.00
5,060.00	5,060.00 Cherry Canyon	0.00
8,020.00	8,020.00 Bone Spring	0.00
4,130.00	4,130.00 Bell Canyon	0.00
4,100.00	4,100.00 Lamar	0.00
3,880.00	3,880.00 Basal Anyydrite	0.00
5,250.00	5,250.00 Manzanita	0.00

OGX Resources



Company: GOC Resources Eddy County, New Mexico Site: Silverstreak 13 Federal Com Silverstreak 13 Fed Com 2H Well: Wellbore: Wellbore #1

Design: Plan #1 080311

TVD Reference: MD Reference: North Reference: Survey Calculation Method:

Well Silverstreak 13 Fed Com 2H WELL @ 3474.00ft (Original Well Elev + 18' KB) WELL @ 3474.00ft (Original Well Elev + 18' KB)

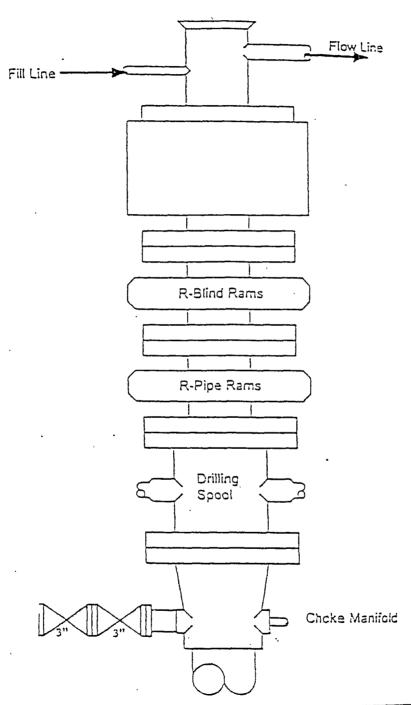
Minimum Curvature

GCR3

Plai			

13,100	.18 8,750.00	4,555.11	-5.90	TD @ 13100' MD
9,022	.54 8,750.00	477.47	-0.62	Land/Start 4077' Hold @ 9022' MD
8,272	.53 8,272.53	0.00	0,00	KOP Start 12°/100' Build @ 8272' MD
Depth (ft)	Depth (ft)	+N/-\$ (ft)	+E/-W	Comment
Measure	d Vertical	Local Coordin	nates	
1 197		Carlot of the state of the stat		

Chan	ked By:	Approved By:	Date:	
Cilec	keu by.	Approved by.	Date:	



Type 900 Series 3000 psi WP EXHIBIT "E"
SKETCH OF B.O.P. TO BE USED ON

OGX RESOURCES, LLC.
SILVERSTREAK "13" FEDERAL COM. #2H
UNIT "M" SECTION 13
T24S-R30E EDDY CO. NM



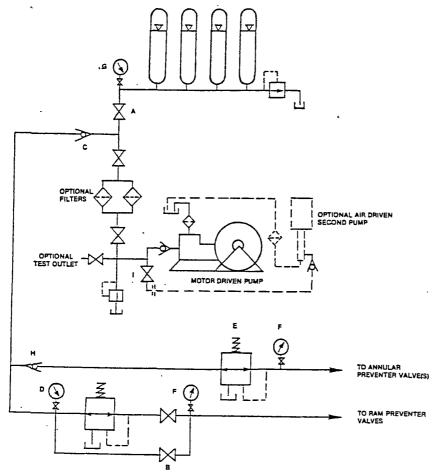


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

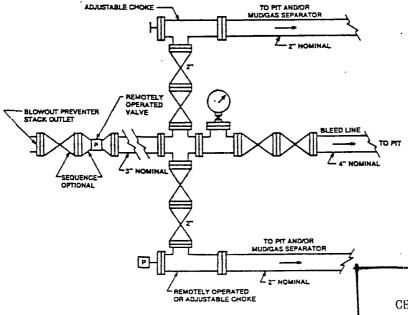


FIGURE K4-2. Typical choke manifold assembly for 5M rated working pressure service — surface installation.

EXHIBIT "E-1"
CHOKE MANIFOLD & CLOSING UNIT

OGX RESOURCES, LLC.

SILVERSTREAL "13" FEDERAL COM, #2H UNIT "M" SECTION 13

T24S-R30E

EDDY CO. NM

OGX RESOURCES, LLC.

HYDROGEN SULFIDE CONTINGENCY PLAN FOR DRILLING/WORKOVER/FACILITY

This well and its anticipated facility are not expected to have Hydrogen Sulfide releases. However, there may be Hydrogen Sulfide production in the nearby area. There are no Private residences in the area but a contingency plan has been orchestrated. OGX RESOURCES, LLC. Will have a company representative available to rig personnel throughout drilling or production operations. If Hydrogen Sulfide is detected or suspected, monitoring equipment will be acquired for monitoring and/or testing.

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EMERGENCY PROCEDURE FOR UNCONTROLLED RELEASE OF H2S	Page 2
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PROTECTION OF THE GENERAL (ROE) RADIUS OF EXPOSURE	Page 5
PUBLIC EVACUATION PLAN	Page 5
PROCEDURE FOR IGNITING AN UNCONTROLABLE CONDITION	Page 6
INSTRUCTIONS FOR IGNITION:	Page 6
REQUIRED EMERGENCY EQUIPMENT	Page 6-
USING SELF-CONTAINED BREATHING AIR EQUIPMENT (SCBA):	Page 7
RESCUE & FIRST AID FOR VICTIMS OF HYDROGEN SULFIDE (H2S) POISONING:	Page 8
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H2S PHYSICAL EFFECTS	Page 9

GENERAL H2S EMERGENCY ACTIONS:

In the event of an H2S emergency, the following plan will be initiated.

- 1) All personnel will immediately evacuate to an up-wind and if possible up-hill "safe area".
- 2) If for any reason a person must enter the hazardous area, they must wear a SCBA (Self contained breathing apparatus)
- 3) Always use the "buddy system"
- 4) Isolate the well/problem if possible.
- 5) Account for all personnel
- 6) Display the proper colors warning all unsuspecting personnel of the danger at hand.
- 7) Contact the Company personnel as soon as possible if not at the location. (use the enclosed call list as instructed)

At this point the company representative will evaluate the situation and co-ordinate the necessary duties to bring the situation under control, and if necessary, the notification of emergency response agencies and residents.

EMERGENCY PROCEDURES FOR AN UNCONTROLLABLE RELEASE OF H2S

- 1) All personnel will don the self-contained breathing apparatus.
- 2) Remove all personnel to the "safe area" (always use the "buddy system")
- 3) Contact company personnel if not on location.
- 4) Set in motion the steps to protect and or remove the general public to an upwind "safe area". Maintain strict security & safety procedures while dealing with the source.
- 5) No entry to any unauthorized personnel.
- 6) Notify the appropriate agencies: City Police-City street(s)
 State Police-State Rd,
 County Sheriff-County Rd.
 (will assist in general public evacuation/safety while maintaining roadblocks)
- 7) Call the NMOCD & or BLM

If at this time the supervising person determines the release of H2S cannot be contained to the site location and the general public is in harms way he will take necessary steps to contact the following:

EMERGENCY CALL LIST: (Start and continue until ONE of these people have been reached)

Jeff Birkelbach	<u>OFFICE</u>	MOBILE	<u>HOME</u>
	432-685-1287	432-694-7880	432 – 553–0391
Donny Leak		432-634-4862	432-399-4489
Silver Oak	575-748-1288	575-748-8622	Cell
Drilling Co.		Mark Eldridge	575-748-8605
Rig Phone	575-513-1745		

EMERGENCY RESPONSE NUMBERS: Lea County, New Mexico				
State Police	575-392-5588			
Lea County Sheriff	575-396-3611			
Emergency Medical Service (Ambulance)	911 or 575-393-2677			
State Emergency Response Center (SERC)	575-476-9620			
Hobbs Police Department Hobbs Fire Department	575-397-9265 575-393-2677			
Lovington Police Department Lovington Fire Department	575-396-3144 575-396-2359			
Loco Hills Fire Department Maljamar Fire Department	575-677-2349 575-676-4100			
(NMOCD) New Mexico Oil Conservation Division, District I (Lea, Roosevelt, Chaves, Curry) District II (Eddy, Chaves)	575-393-6161 575-748-1283			
American Safety Indian Fire & Safety Callaway Safety	575-746-1096 575-746-4660 or 800-530-8693 575-746-2847			
BJ Services	575-746-3569			

PROTECTION OF THE GENERAL PUBLIC/ROE:

In the event greater than 100 ppm H2S is present, the ROE (Radius Of Exposure) calculations will be done to determine if the following is warranted:

- 100 ppm at any public area (any place not associated with this site)
- 500 ppm at any public road (any road which the general public may travel)
- 100 ppm radius of 3000' will be assumed if there is insufficient data to do the
 calculations, and there is a reasonable expectation that H2S could be present in
 concentrations greater than 100 ppm in the gas mixture.

Calculation for the 100 ppm ROE:

 $X = [(1.589) (concentration) (Q)]^{(0.6258)}$

Calculation for the 500 ppm ROE:

 $X = [(0.4546) (concentration) (Q)]^{(.06258)}$

EXAMPLE: If a well/facility has been determined to have 150 ppm H2S in the gas mixture and the well/facility is producing at a gas rate of 100 MCFPD then:

100 PPM
$$X=[(1.589)(150/1,000,000)(100,000)]^{0.6258}$$

 $X=7'$

500 PPM
$$X=[(.4546)(150/1,000,000)(100,000)]^{0.6258}$$

 $X=3'$

(These calculations will be forwarded to the appropriate District NMOCD office when applicable)

PUBLIC EVACUATION PLAN:

(When the supervisor has determined that the General Public will be involved, the following plan will be implemented)

- 1) Notification of the emergency response agencies of the hazardous condition and implement evacuation procedures.
- 2) A trained person in H2S safety, shall monitor with detection equipment the H2S concentration, wind and area of exposure (ROE). This person will determine the outer perimeter of the hazardous area. The extent of the evacuation area will be determined from the data being collected. Monitoring shall continue until the situation has been resolved. (All monitoring equipment shall be UL approved, for use in class I groups A,B,C, & D, Division I, hazardous locations. All monitors will have a minimum capability of measuring H2S values.)
- 3) Law enforcement shall be notified to set up necessary barriers and maintain such for the duration of the situation as well as aid in the evacuation procedure.
- 4) The company supervising personnel shall stay in communications with all agencies through out the duration of the situation and inform such agencies when the situation has been contained and the effected area(s) is safe to enter.

PROCEDURE FOR IGNITING AN UNCONTROLABLE CONDITION:

The decision to ignite a well should be a last resort and one if not both of the following pertain.

- 1) Human life and/or property are in danger.
- There is no hope of bringing the situation under control with the prevailing conditions at the site.

INSTRUCTIONS FOR IGNITION:

- 1) Two people are required. They must be equipped with positive pressure; self contained breathing apparatus and a "D" –ring style, full body, OSHA approved safety harness. Non-flammable rope will be attached.
- One of the people will be a qualified safety person who will test the atmosphere for H2S, Oxygen, & LFL. The other person will be the company supervisor; he is responsible for igniting the well.
- 3) Ignite up-wind from a distance no closer than necessary. Make sure that where you ignite from has the maximum escape avenue available. A 25mm flare gun shall be used, with a +500' range to ignite the gas.
- 4) Prior to ignition, make a final check for combustible gases.
- 5) Following ignition, continue with the emergency actions & procedures as before.

REQUIRED EMERGENCY EQUIPMENT:

- 1) Breathing Apparatus:
 - Rescue Packs (SCBA) 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
 - Work/Escape Packs 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
 - Emergency Escape Packs 4 packs shall be stored in the doghouse for emergency evacuation.
- 2) Signage & Flagging:
 - One Color Code Condition Sign will be placed at the entrance to the site reflecting the possible conditions at the site.
 - A Colored Condition flag will be on display, reflecting the condition at the site at that time.
- 3) Briefing Area: Two, perpendicular areas will be designated by signs and readily accessible.

- 4) Wind Socks: Two windsocks will be placed in strategic locations, visible from all angles.
- 5) H2S Detectors and Alarm: The stationary detector with three (3) sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 15 ppm. Calibrate a minimum of every 30 days or as needed. The 3 sensors will be placed in the following places: (Gas sample tubes will be stored in the safety trailer)
 - Rig Floor
 - Bell Nipple
 - End of Flow line or where well bore fluid are being discharged.
- 6) Auxiliary Rescue Equipment:
 - Stretcher
 - Two OSHA full body harness
 - 100' of 5/8" OSHA approved rope
 - 1 20# Class ABC fire extinguisher
 - Communication via cell phones on location and vehicles on location.

USING SELF-CONTAINED BREATHING AIR EQUIPMENT (SCBA):

SCBA should be worn when any of the following are performed:

- Working near the top or on top of a tank.
- Disconnecting any line where H2S can reasonably be expected.
- Sampling air in the area to determine if toxic concentrations of H2S exist.
- Working in areas where over 10 ppm on H2S has been detected.
- At any time there is a doubt as the level of H2S in the area.

All personnel shall be trained in the use of SCBA prior to working in a potentially hazardous location.

Facial hair and standard eyeglasses are not allowed with SCBA.

Contact lenses are never allowed with SCBA.

Air quality shall continuously be checked during the entire operation.

After each use, the SCBA unit shall be cleaned, disinfected, serviced and inspected.

All SCBA shall be inspected monthly.

RESCUE & FIRST AID FOR VICTIMS OF HYDROGEN SULFIDE (H2S) POISONING

Do not panic.

Remain calm & think.

Get on the breathing apparatus.

Remove the victim to the safe breathing area as quickly as possible. Upwind an uphill from source of cross wind to achieve upwind.

Notify emergency response personnel.

Provide artificial respiration and/or CPR, as necessary.

Remove all contaminated clothing to avoid further exposure.

A minimum of two (2) personnel on location shall be trained in CPR and First Aid.

H2S TOXIC EFFECTS:

H2S is extremely toxic. The acceptable ceiling for eight hours of exposure is 10 ppm, which is .001% by volume. H2S is approximately 20% heavier than air (Sp.Gr=1.19 / Air=1) and colorless. It forms an explosive mixture with air between 4.3% and 46.0%. By volume hydrogen sulfide (H2S) is almost as toxic as hydrogen cyanide and is 5-6 times more toxic than carbon monoxide.

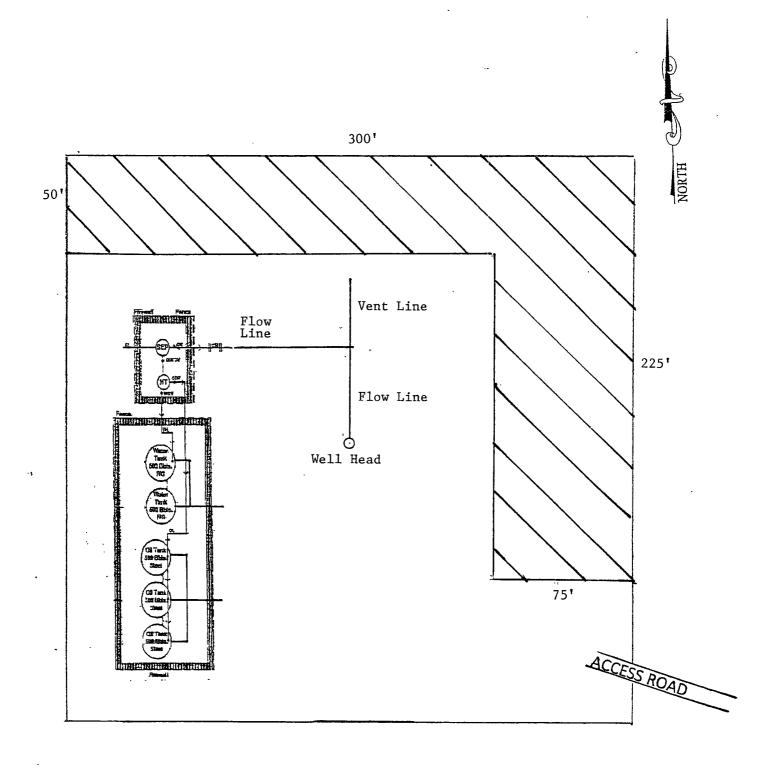
Various Gases

Common Name	Chemical Abbrev.	Sp. Gr.	Threshold Limits	Hazardous Limits	Lethal Concentration
Hydrogen Sulfide	H2S	1.19	10 ppm 15 ppm	100 ppm/hr	600 ppm
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/hr	300 ppm
Sulfur Dioxide	SO2	2.21	2 ppm	N/A	1000 ppm
Chlorine	CL2	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	CO2	1.52	5000 ppm	5%	10%
Methane	CH4	0.55	90,000	Combustible @ 5%	N/A

- 1. Threshold limit Concentrations at which it is believed that all workers may be repeatedly exposed, day after day without adverse effects.
- 2. · Hazardous limit Concentration that may cause death.
- 3. Lethal concentration Concentration that will cause death with short-term exposure.
- 4. Threshold limit 10 ppm NIOSH guide to chemical hazards.
- 5. Short-term threshold limit.

PHYSICAL EFFECTS OF HYDROGEN SULFIDE:

CONCEN	ITRATIONS	PHYSICAL EFFECTS
.001%	10 ppm	Obvious and unpleasant odor. Safe for 8 hr. exposure
.005%	` 50 ppm	Can cause some flu-like symptoms and can cause pneumonia.
.01%	100 ppm	Kills the sense of smell in 3-15 minutes. May irritate eyes and throat.
.02%	200 ppm	Kills the sense of smell rapidly. Severely irritates eyes and throat. Severe flu-like symptoms after 4 or more hours. May cause lung damage and/or death.
.06%	600 ppm	Loss of consciousness quickly, death will result if not rescued promptly.



PLAT OF PROPOSED RECLAIMED AREA

OGX RESOURCES, LLC.
SILVERSTREAK "13" FEDERAL COM. #2H
UNIT "M" SECTION 13
T24S-R30E EDDY CO. NM

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:
LEASE NO.:
WELL NAME & NO.:
SURFACE HOLE FOOTAGE:
BOTTOM HOLE FOOTAGE
LOCATION:
COUNTY:
OGX Resources, LLC.
NM-82896
Silverstreak 13 Fed Com #2H
400' FSL & 990' FWL
330' FNL & 990' FWL
Section 13, T. 24 S., R. 30 E., NMPM
Eddy County, New Mexico

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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.

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Archaeology, Paleontology, and Historical Sites
Noxious Weeds
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☐ Production (Post Drilling)
Well Structures & Facilities
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Electric Lines
☐ Interim Reclamation
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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)

<u>Communitization Agreement</u>
A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any

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. 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 4 inches in depth. The topsoil will be used for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. 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.

F. 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 twenty (20) 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.

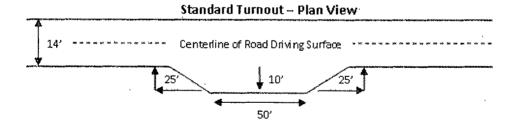
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

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:

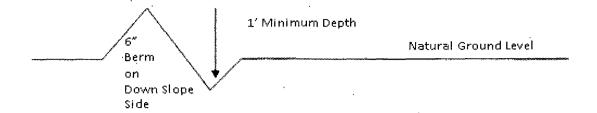


Drainage

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

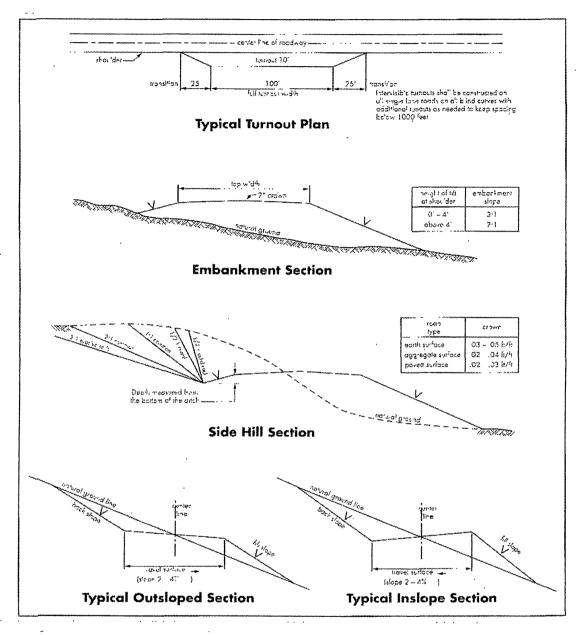
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

⊠ Eddy County

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

- 1. Due to recent H2S encounters in the salt formation, it is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide prior to drilling out the surface shoe. If Hydrogen Sulfide is encountered, please report measurements and formations to the BLM.
- 2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. If the drilling rig is removed without approval an Incident of Non-Compliance will be written and will be a "Major" violation.
- 3. 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.
- 4. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Medium cave/karst potential.
Secretary's Potash
Possible lost circulation in the Delaware.
Possible water flows in the Salado, Castile and Delaware.

- 1. The 13-3/8 inch surface casing shall be set at approximately 630 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing, which is to be set in the base of the Castile or within the Lamar at approximately 4100', is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

- 3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
 - Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification. Additional cement may be required excess calculates to 16%.
- 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 potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.
 - 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) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
 - 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. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. 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.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

CRW 113011

VIII. 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

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

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

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

- 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 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way 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 activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder 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. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills 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 in which the damage or injury occurred.

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

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or 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 darnages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up 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 responsibility as provided herein.

6. (a) Where a polyline is laid along a <u>County</u> Road, the operator will lay that polyline ten (10) feet out from the center of the ditch to prevent obstructing County Maintenance activities.
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 of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.
9. The pipeline shall be buried with a minimum of inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips 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 improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall 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 will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.
12. Excluding the pipe, all above-ground structures not subject to safety requirement 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" – Shale Green , Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.
13. The pipeline will be identified by signs at the point of origin and completion of the

6. All construction and maintenance activity will be confined to the authorized right-of-

______ feet.

way width of

right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a

legible condition for the life of the pipeline.

- 14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route 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 his behalf, on public or Federal land shall be immediately reported to the authorized officer. 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 cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.
- 16. 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, powerline 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.

IX. 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).

Seed Mixture 2, for Sandy 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 <u>no</u> 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

Sand dropseed (Sporobolus cryptandrus)

1.0

Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

^{*}Pounds of pure live seed:

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