ATS08-5
EA-08-1119

AUG – 7 2008

OCD-ARTESIA

S

Form 3160-3
(February 2005)

OCD-ARTESIA

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
NMLC 0029418A

6 If Indian, Allotee or Tribe Name
N/A

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

8 Lease Name and Well No.
Skelly Unit 974 305607

2 Name of Operator
~~Chevron USA, Inc.~~ **(COG Operating, LLC- Agent)** 229137

9 API Well No
30-015-36597

3a Address **550 W. Texas Avenue, Suite 1300 Midland, Texas 79701**

3b. Phone No *(include area code)* **432-683-7445**

10 Field and Pool, or Exploratory
Fren Yeso

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface **1245' FSL & 2505' FEL**
At proposed prod zone **990' FSL & 2310' FEL** Roswell Controlled Water Basin

11 Sec., T., R., M., or Blk. and Survey or Area
Section 14, T17S, R31E

NSL

14 Distance in miles and direction from nearest town or post office*
Approximately 6 miles from Loco Hills

12 County or Parish
Eddy Co

13 State
NM

15 Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any) **1245 FSL**

16 No. of acres in lease
640

17 Spacing Unit dedicated to this well
40

18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.

19 Proposed Depth
~~6400 MD~~ 6500 TVD
6511 MD

20 BLM/BIA Bond No. on file
CA 0329

21 Elevations (Show whether DF, KDB, RT, GL, etc.)
3899' GL

22 Approximate date work will start*
05/15/2008

23 Estimated duration
45 Days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, must 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 must 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 BLM.

25 Signature
Name *(Printed/Typed)* **Lee Ann Rollins**
Date **04/21/2008**

Title **Agent for COG Operating, LLC**

Approved by *(Signature)* /s/ James Stovall
Name *(Printed/Typed)* /s/ James Stovall
Date AUG – 4 2008

Title **FIELD MANAGER**
Office **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.

NOTE: NEW PIT RULE
19-15-17 NMAC PART 17
A form C-144 must be approved before starting drilling operations.

*(Instructions on page 2)

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

APD

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

Chevron USA Inc. (COG Operating LLC, Agent)
550 W. Texas Avenue, Ste. 1300
Midland, TX 79701

The undersigned accepts all applicable terms, conditions, stipulations and restrictions covering operations conducted on the leased land or portion thereof, as described below:

Lease No – Surface Location:	NMLC # 0029418A
Well Name:	Skelly Unit #974
Legal Description of Land:	SL: 1245' FSL & 2505' FEL, Unit O BHL: 990' FSL & 2310' FEL, Unit O Sec 14, T17S, R31E Eddy County, New Mexico
Formation(s) (if applicable):	Skelly Unit
Bond Coverage:	$200,000 Nationwide bond of Chevron USA Inc.
BLM Bond File No:	CA-0329

4/11/08
Date

John Coffman
C.O.G. Operating, LLC

AUG 25 2008
OCD-ARTESIA

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
1220 S. St. Francis Dr., Santa Fe, NM 87505

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-102
Revised October 12, 2005

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-	26770	FREN; GLORIETA YESO

Property Code	Property Name	Well Number
~~303~~ 305607	SKELLY UNIT	974

OGRID No.	Operator Name	Elevation
229137	C.O.G. OPERATING L.L.C.	3899'

Surface Location

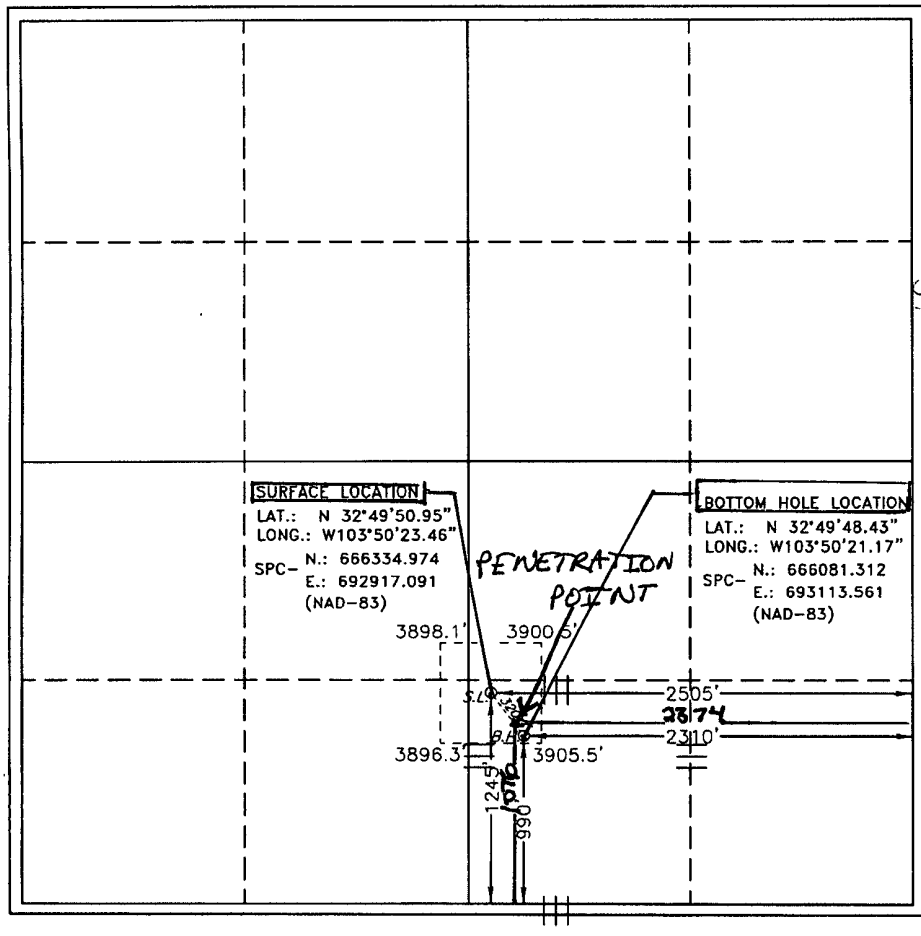
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	14	17 S	31 E		1245	SOUTH	2505	EAST	EDDY

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
O	14	17 S	31 E		990	SOUTH	2310	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

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



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Phyllis A. Edwards 8-4-08
Signature Date

Phyllis A. Edwards
Printed Name

Regulatory Analyst

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 supervison, and that the same is true and correct to the best of my belief.

DECEMBER 17, 2007
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES
NEW MEXICO
7977
Professional Surveyor

W.O. Number 8002

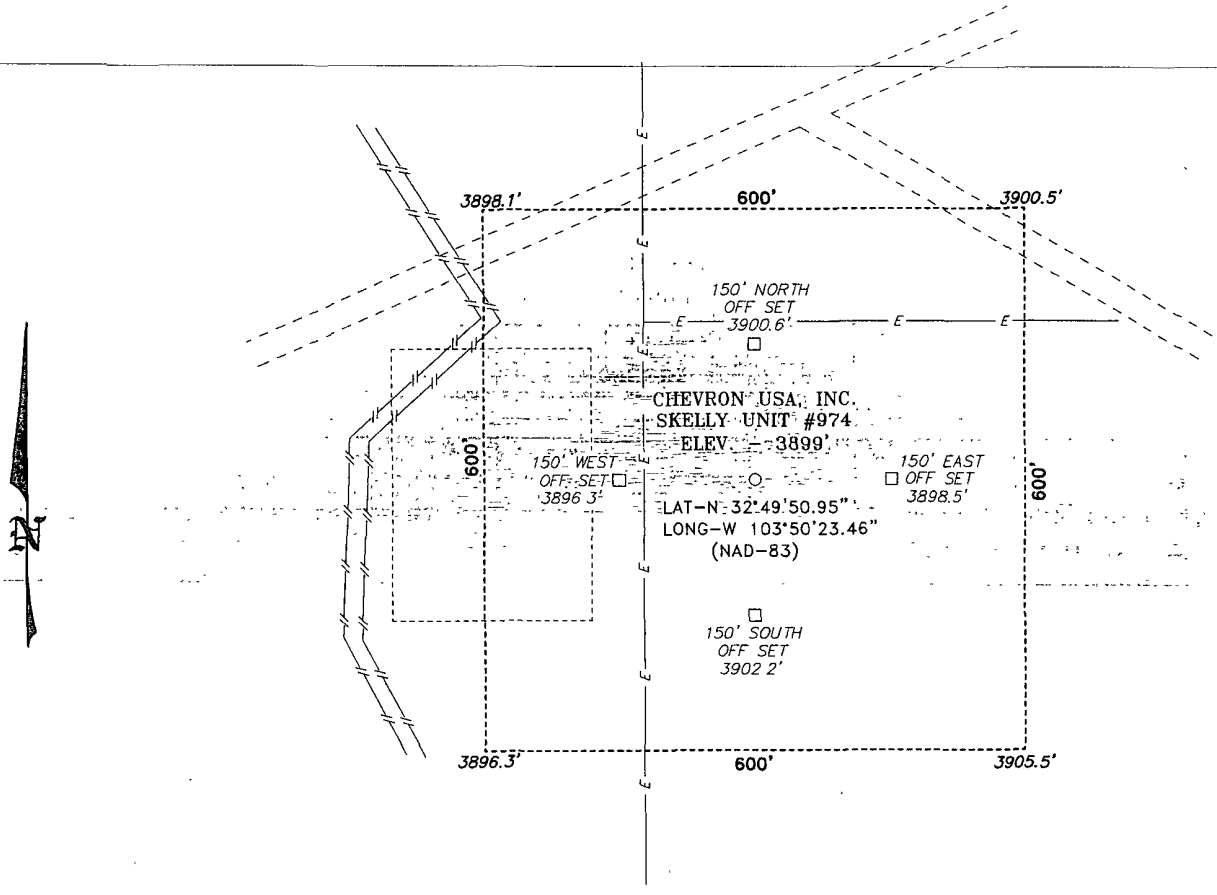
Certificate No. Gary L. Jones 7977

BASIN SURVEYS

EXHIBIT "B"

SECTION 14, TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M.,

EDDY COUNTY, **NEW MEXICO.**



200 0 200 400 FEET

SCALE: 1" = 200'

DIRECTIONS TO LOCATION.

FROM MILE MARKER 140 OF US HWY 82, GO EAST 0.2 MILES TO LEASE ROAD, ON LEASE ROAD GO NORTH 0.2 MILES TO LEASE ROAD, ON LEASE ROAD GO NORTHERLY 0.4 MILES TO PROPOSED LOCATION

CHEVRON USA, INC.

REF: SKELY UNIT #974 / Well Pad Topo

THE SKELLY UNIT #974 LOCATED 1245' FROM THE SOUTH LINE AND 2505' FROM THE EAST LINE OF SECTION 14, TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

BASIN SURVEYS P.O BOX 1786 – HOBBS, NEW MEXICO

W.O. Number: 18652	Drawn By: J. M. SMALL		
Date: 12-17-2007	Disk: JMS . 18652W	Survey Date: 12-17-2007	Sheet 1 of 1 Sheets

EXHIBIT "C"

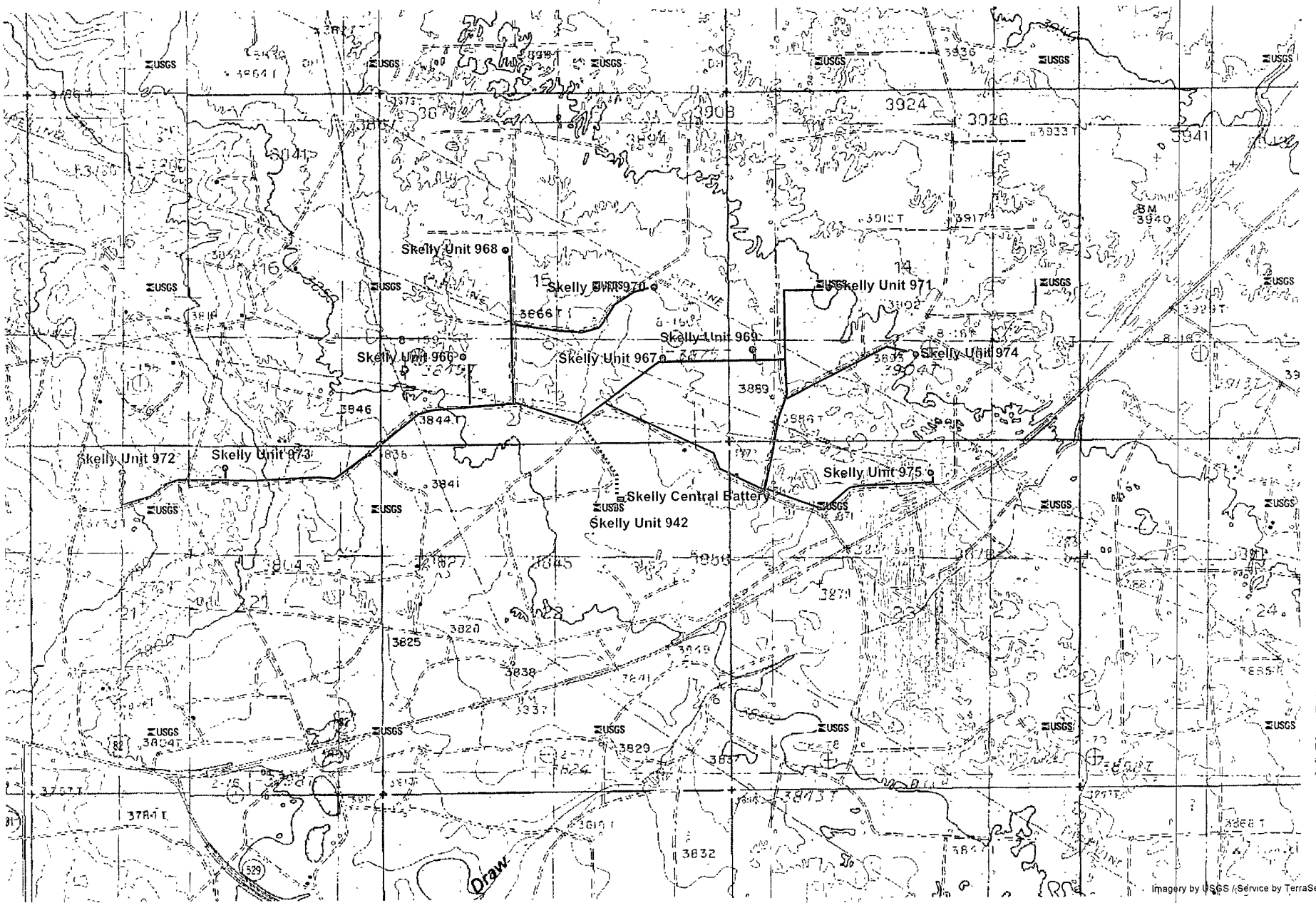
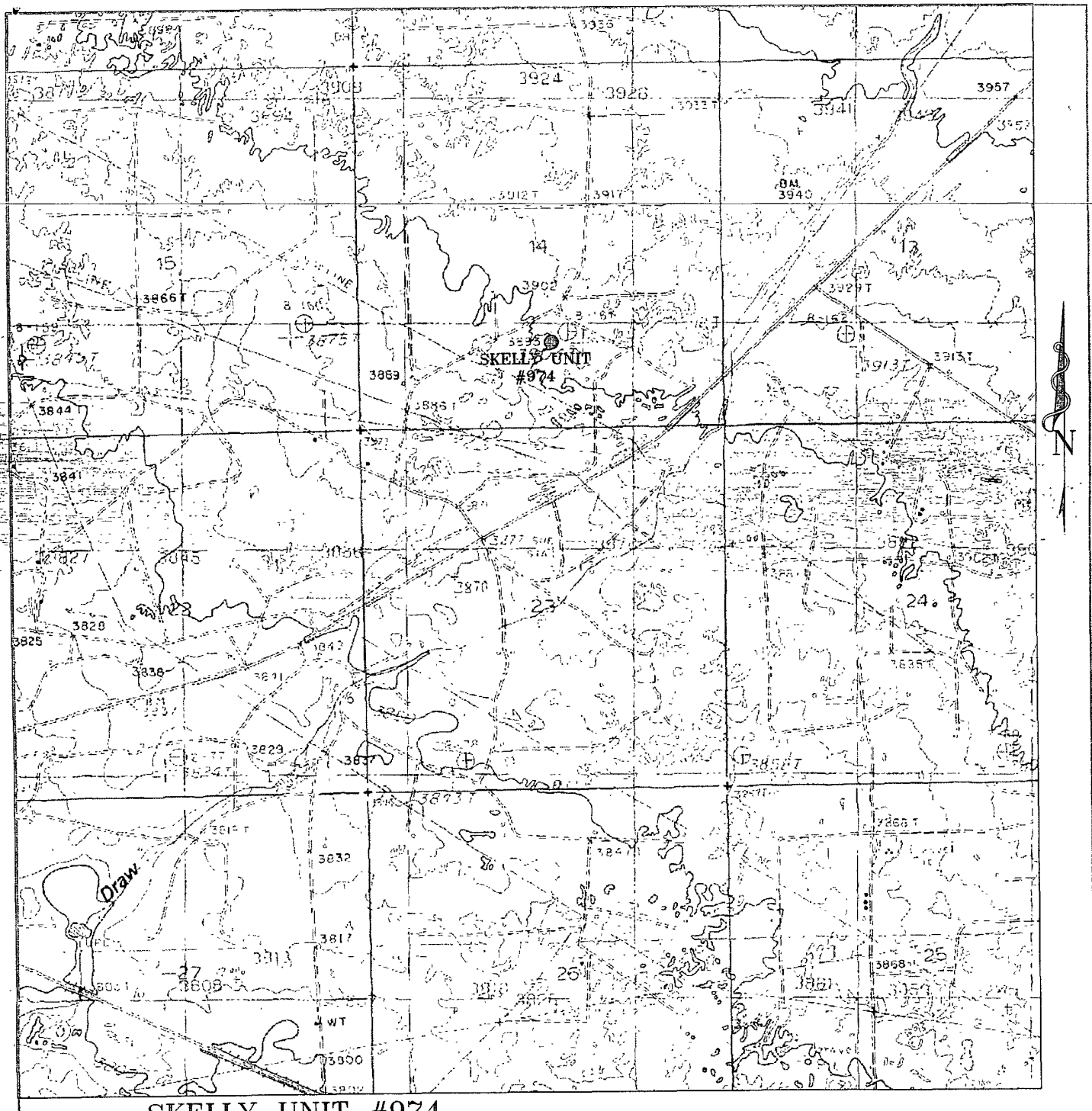

Skelly Unit 968
Skelly Unit 970
Skelly Unit 971
Skelly Unit 969
Skelly Unit 966
Skelly Unit 967
Skelly Unit 974
Skelly Unit 972
Skelly Unit 973
Skelly Unit 975
Skelly Central Battery
Skelly Unit 942
Draw
Arch approved pipe line routes
New routes to be arched & filed under APD
New route to be arched & amended under 967 APD
Imagery by USGS / Service by TerraServer - Terms of Use

EXHIBIT "D"



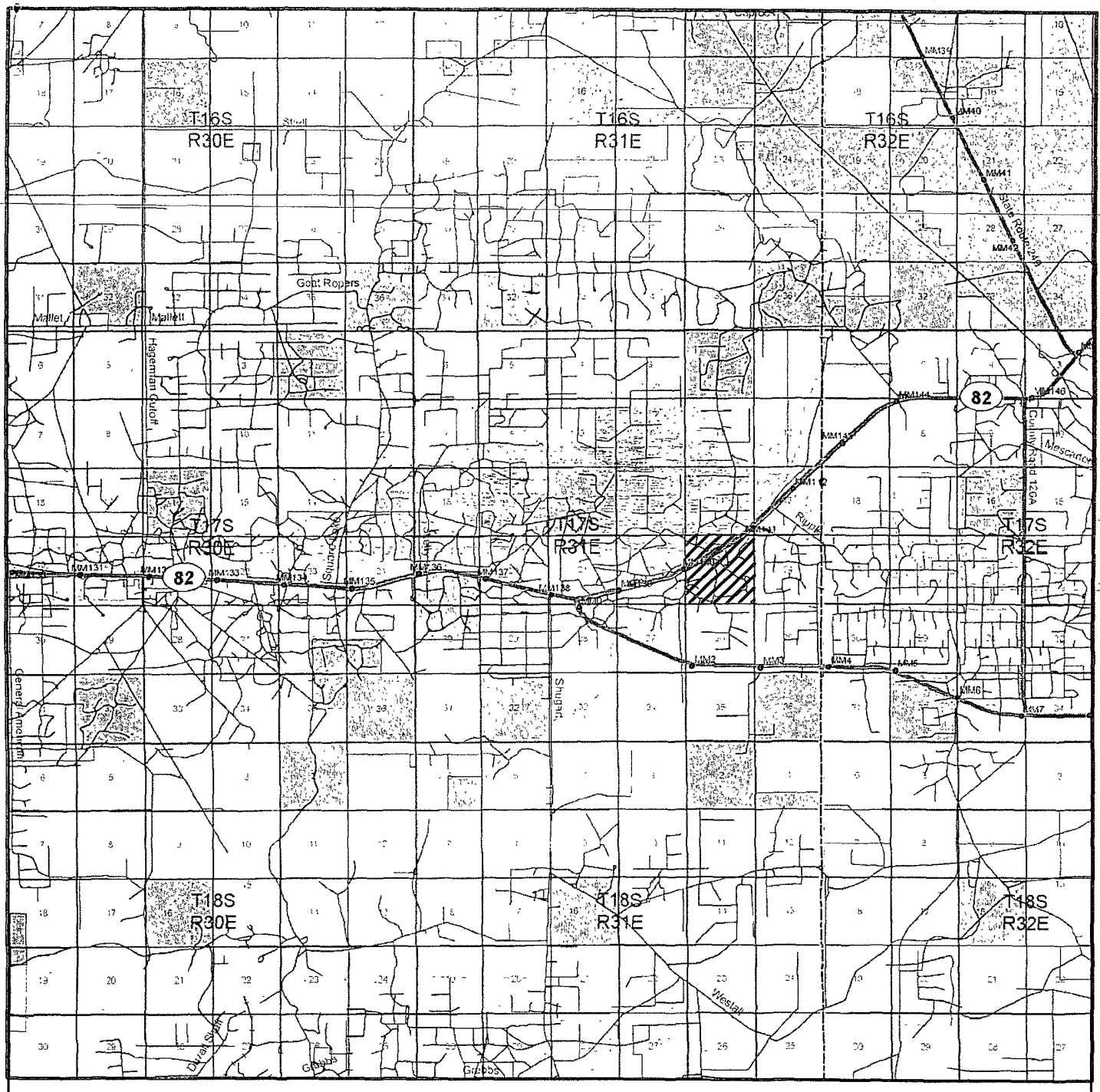
SKELLY UNIT #974
Located at 1245' FSL and 2505' FEL
Section 14, Township 17 South, Range 31 East,
N.M.P.M., Eddy County, New Mexico.

Basin Surveys
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basin.surveys.com

W.O. Number: JMS 18552T
Survey Date: 12-17-2007
Scale: 1" = 2000'
Date: 12-17-2007

CHEVRON USA, INC.

EXHIBIT "E"



SKELLY UNIT #974
Located at 1245' FSL and 2505' FEL
Section 14, Township 17 South, Range 31 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys
focused on excellence in the oilfield

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

W.O Number:	JMS 18652TR
Survey Date.	12-17-2007
Scale	1" = 2 MILES
Date	12-17-2007

CHEVRON USA, INC.

MASTER DRILLING PROGRAM

1. Geologic Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geologic Markers:

Quaternary	Surface
Top of Salt	560'
Base of Salt	1150'
Yates	1770'
Seven Rivers	2100'
Queen	2715'
Grayburg	3100'
San Andres	3450'
Glorietta	4950'
Yeso Group	4995'

3. Estimated Depths of Anticipated Fresh Water, Oil and Gas

Water Sand	150'	Fresh Water
Grayburg	3100'	Oil/Gas
San Andres	3450'	Oil/Gas
Glorietta	4950'	Oil/Gas
Yeso Group	4995'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing to 450' and circulating cement back to the surface will protect the surface fresh water sand. The Salt Section will be protected by setting 8 5/8" casing to 1800' and circulating cement back to the surface. Any shallower zones above +/-6600' TD, which contain commercial quantities of oil and/or gas, will have cement circulated across them by cementing 5 1/2" production casing back 200' into the intermediate casing, to be run at TD.

4. Casing Program

Hole Size	Interval	OD Casing	Weight	Grade	Jt., Condition	Jt.	burst/collapse/tension
17 ½"	0-450'	13 3/8"	48#	H-40	New	ST&C	8.71/3.724/14.91
11"or12¼"	0-1800'	8 5/8"	24or32#	J-55	New	ST&C	2.91/1.46/5.65
7 7/8"	0-T.D.	5 1/2"	17#	J-55	New	LT&C	1.71/1.574/2.20

5. Cement Program

13 3/8" Surface Casing:	Class C, 500 sx, yield 1.32, back to surface
8 5/8" Intermediate Casing:	11" Hole: Class C, 400 sx lead, yield-2.45 + 200 sx tail, yield-1.32, back to surface. 12-1/4" Hole: Class C, 600 sx lead, yield-2.45 + 200 sx tail, yield-1.32, back to surface.
5 1/2" Production Casing:	Class C, 700 sx Lead, yield-1.97 + 400 sx Tail, yield-1.37, to 200' minimum tie back to intermediate casing.

6. Minimum Specifications for Pressure Control

The blowout preventer equipment (BOP) shown in Exhibit #9 will consist of a double ram-type (2000 psi WP) preventer. This unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top of 4 1/2" drill pipe rams on the bottom. The BOP will be nipped up on the 13 3/8" surface casing and tested to 1000 psi by rig pump. The BOP will then be nipped up on the 8 5/8" intermediate casing and tested by a third party to 2000 psi and used continuously until total depth is reached. All BOP's and accessory equipment will be tested to 2000 psi before drilling out of the intermediate casing. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment (Exhibit #10) will include a Kelly cock and floor safety valve, choke lines and a choke manifold (Exhibit #11) will a 2000 psi WP rating.

See COA

7. Types and Characteristics of the Proposed Mud System

The well will be drilled to TD with a combination of brine, cut brine and polymer mud system. The applicable depths and properties of this system are as follows:

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-450'	Fresh Water	8.5	28	N.C.
450-1800'	Brine	10	30	N.C.
1800'-TD	Cut Brine	8.7-9.1	29	N.C.

Sufficient mud materials will be kept at the well site to maintain mud properties and meet minimum lost circulation and weight increase requirements at all times.

8. Auxiliary Well Control and Monitoring Equipment

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

B. A full opening drill pipe-stabbing valve with proper drill pipe connections will be on the rig floor at all times.

9. Logging, Testing and Coring Program

A. The electric logging program will consist of GR-Dual Laterolog, Spectral Density, Dual Spaced Neutron, CSNG Log and will be run from TD to 8 5/8" casing shoe.

B. Drill Stem test is not anticipated.

C. No conventional coring is anticipated.

D. Further testing procedures will be determined after the 5 ½" production casing has been cemented at TD, based on drill shows and log evaluation.

10. Abnormal Conditions, Pressure, Temperatures and Potential Hazards

No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 110 degrees and the estimated maximum bottom hold pressure is 2300 psig. Low levels of hydrogen sulfide have been monitored in producing wells in the area, so H_2S may be present while drilling the well. A Hydrogen Sulfide Drilling Operation Plan is attached to this program. No major loss of circulation zones has been reported in offsetting wells.

11. Anticipated Starting Date and Duration of Operations

Road and location work will not begin until approval has been received from the BLM. As this is a Master Drilling plan, please refer to the Form 3160-3 for the anticipated start date. Once commenced, drilling operations should be finished in approximately 12 days. If the well is productive, an additional 30 days will be required for completion and testing before a decision is made to install permanent facilities.

EXHIBIT "F"

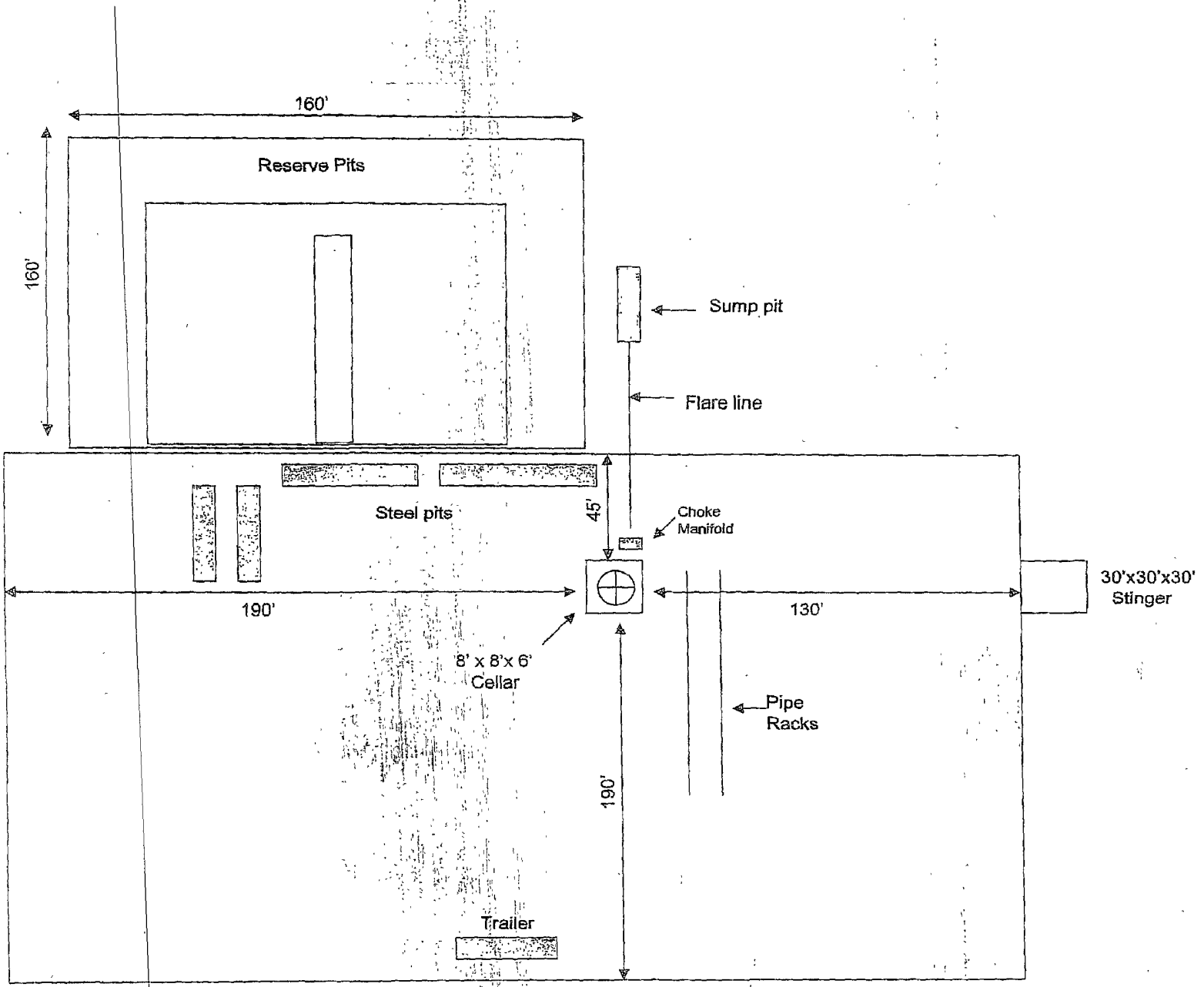
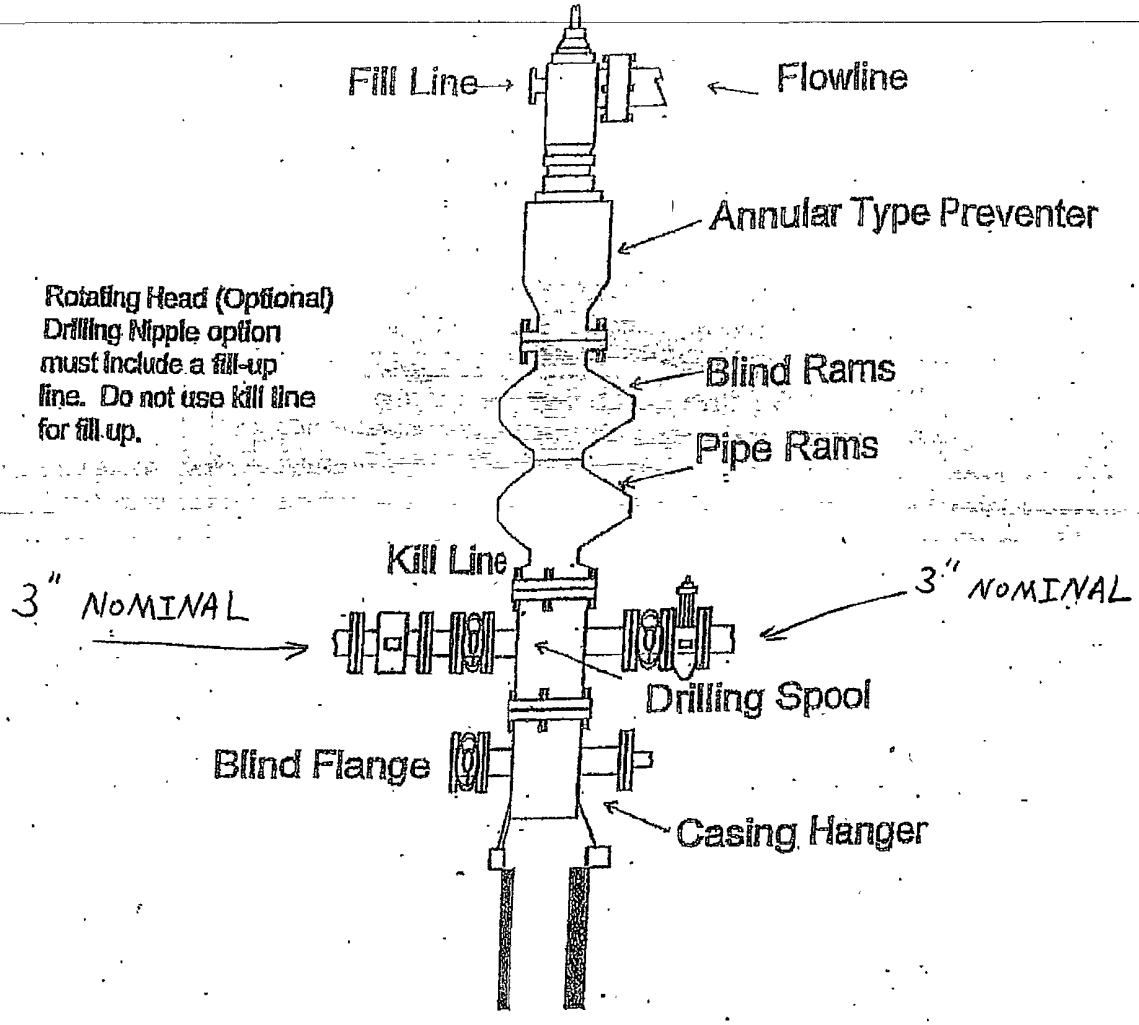

160'
Reserve Pits
160'
Sump pit
Flare line
Steel pits
45'
Choke
Manifold
190'
130'
30'x30'x30'
Stinger
8' x 8'x 6'
Cellar
Pipe
Racks
190'
Trailer

EXHIBIT "G"

BOPE SCHEMATIC

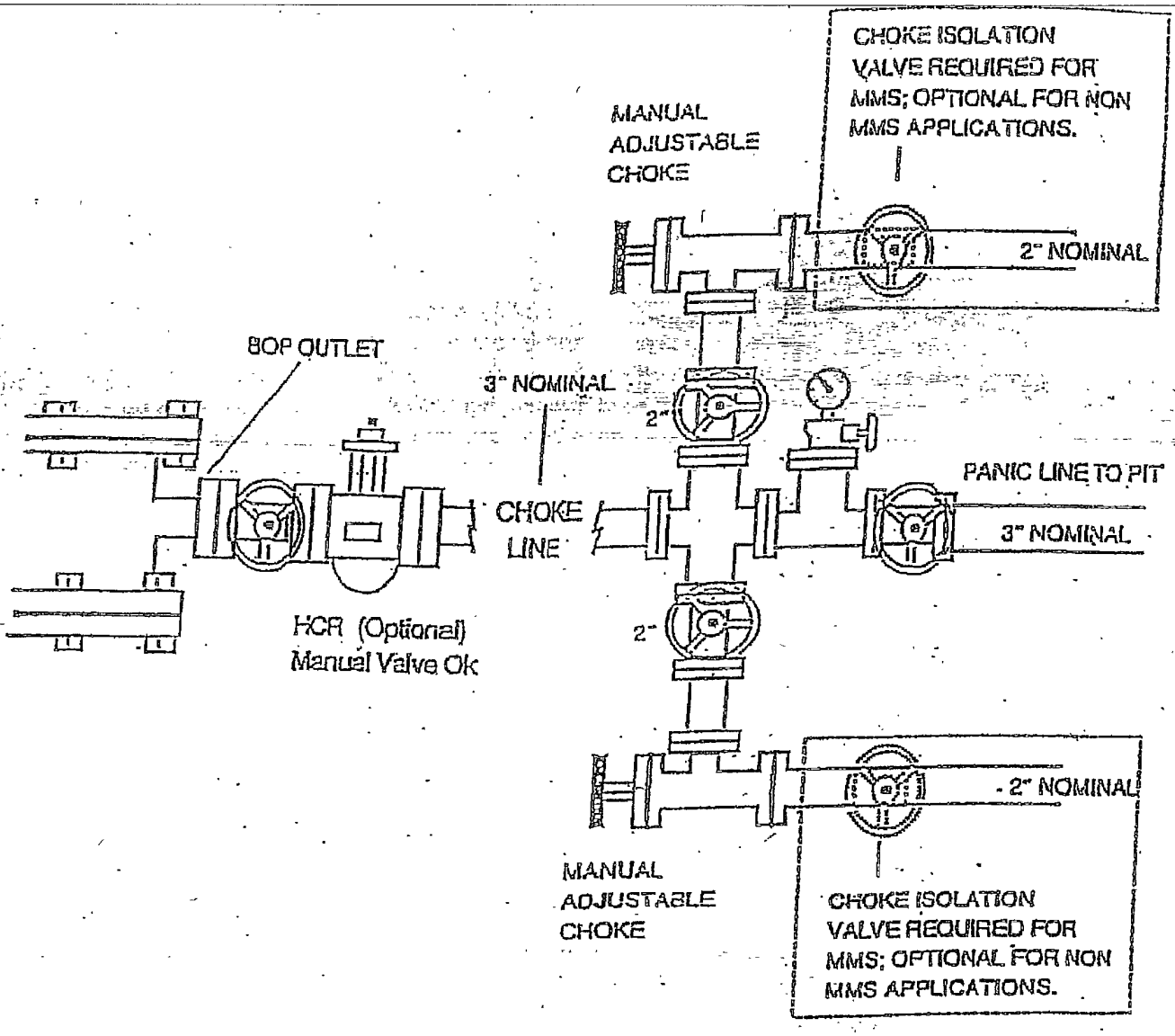


900 SERIES

EXHIBIT "H

CHOKE MANIFOLD

3M SERVICE



"Lee Ann"
<leeann@gss04.com>
05/21/2008 01:58 PM

To <Cheryle_Ryan@nm.blm.gov>
cc <dwaine@gss04.com>
bcc
Subject FW: COG - Skelly Unit 974 Well Plan

Cheryle,

As per my understanding Chevron received a letter stating that they needed the above for the Skelly 274.
Also the letter noted that an on-site had not been completed.

Please note that according to my notes (noted below) an on-site was completed on/or before October 15, 2007 by Cody Layton.

Please let me know if you need anything else.

Thanks for all your help,
Lee Ann

Skelly Unit #974 Eddy Co., NM

Sec. 14 T-17S R31E SL: 1245' FSL & 2505' FEL (new location)
Sec. 14 T-17S R31E BHL: 990' FSL & 2310' FEL

September 26, 2007- Researching surface ownership and begin reviewing for road access route. scheduled surveying week of October 2nd. Contacted federal tenant (Caswell Ranch) as to surveyors to be on property.

October 7, 2007- Prepared NOS and plotted well on map, submitting to BLM. Waiting on survey plats.

October 15, 2007- On-site completed by BLM/C Layton per BLM surface location moved to SL: 1245' FSL & 2505' FEL, waiting on approval by BLM/Wildlife.

November 30, 2007- Per BLM Wildlife surface location approved as SL: 1245' FSL & 2505' FEL, and decision was made to directional drill BHL: 990' FSL & 2310' FEL. Padded up well, waiting on survey plats.

Reviewed pipeline routes for existing and previously permitted wells in Skelly Unit, along with ARCH survey for those wells, accessed pipeline route for new Skelly wells, prepared plat, forwarded to Southern ARCH to order survey.

December 17, 2007- Following up with Basin Survey's regarding plats.

December 27, 2007- Received, reviewed and forwarded plats to COG and to Boone ARCH.

February 5, 2008- Waiting on Drill information to complete APD. Received ARCH survey report from Southern, well location, roadway and pipeline show to be arch clear. Forwarded ARCH survey report to COG/Robert.

May 1, 2008 - Monitoring for approval of APD from BLM & OCD.


Skelly Unit #974_VS_r1.pdf


Skelly Unit #974_plan_r1.pdf


Skelly Unit #974_plan_r1.xls

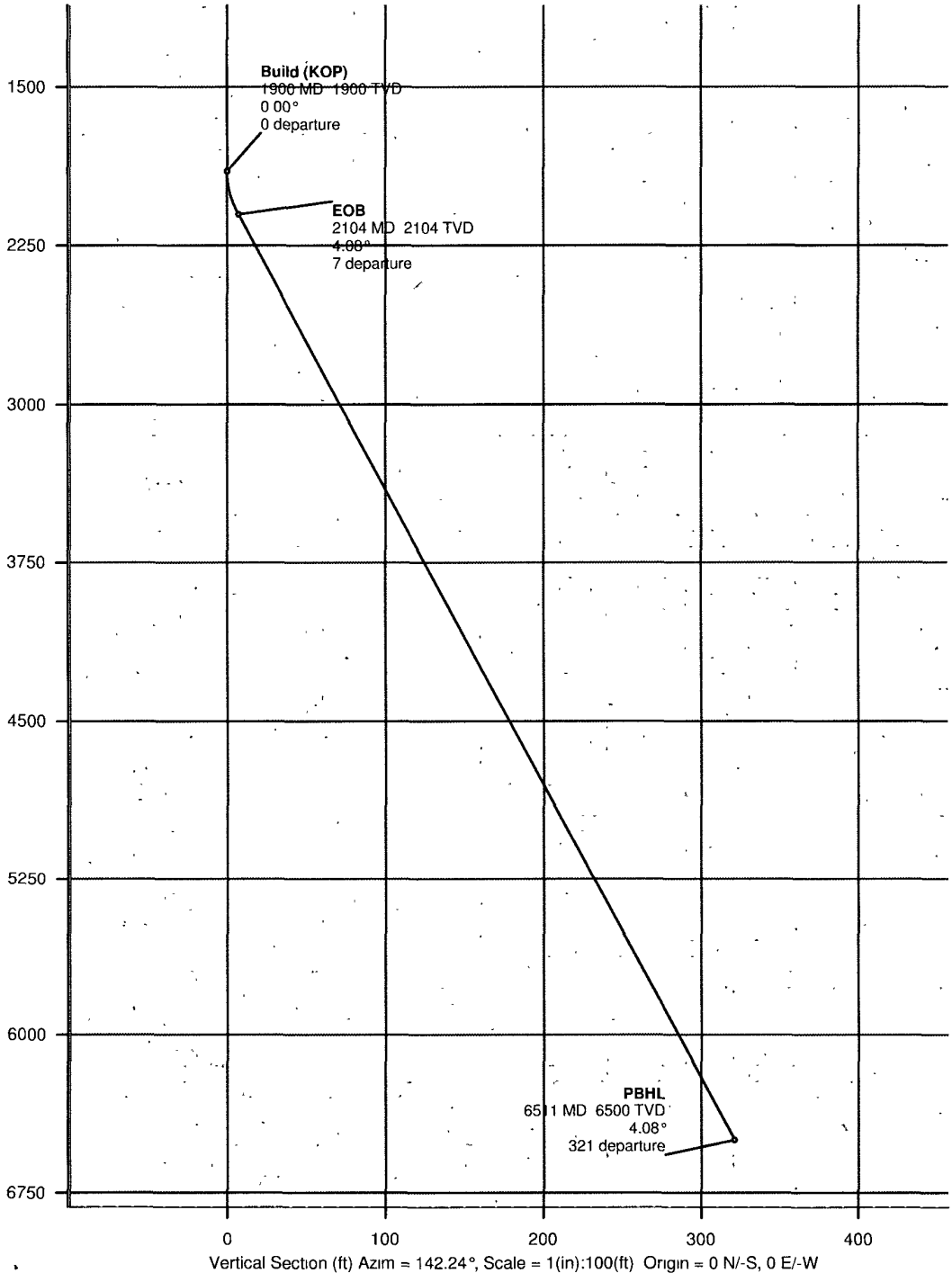

Skelly Unit #974_PV_r1.pdf

COG Operating, LLC

WELL	FIELD	STRUCTURE
Skelly Unit #974	Eddy County, NM NAD83	Skelly Unit #974

Magnetic Parameters					Surface Location					Miscellaneous			
Model	IGRF 2005	Dip	60.792°	Date	May 05, 2008	Lat	N32 49 50.911	Northing	666334.97 ftUS	Grid Conv	+0.25755225°	Slot	Skelly Unit #974
		Mag Dec	+8.119°	FS	49314.9 nT	Lon	W103 50 23.456	Easting	692917.09 ftUS	Scale Fact	0.9999354023	Plan	Skelly Unit #974_r1

TVD Ref RKB (0.00 ft above)
Srvy Date May 05, 2008



INTREPID
Directional Drilling Specialists

Proposal

Report Date:	May 5, 2008	**Survey / DLS Computation Method:**	Minimum Curvature / Lubinski
Client:	COG Operating, LLC	**Vertical Section Azimuth:**	142.240°
Field:	Eddy County, NM NAD83	**Vertical Section Origin:**	N 0.000 ft, E 0.000 ft
Structure / Slot:	Skelly Unit #974 / Skelly Unit #974	**TVD Reference Datum:**	RKB
Well:	Skelly Unit #974	**TVD Reference Elevation:**	0.0 ft relative to
Borehole:	Skelly Unit #974	**Sea Bed / Ground Level Elevation:**	0.000 ft relative to
UWI/API#:		**Magnetic Declination:**	8.119°
Survey Name / Date	Skelly Unit #974_r1 / May 5, 2008	**Total Field Strength:**	49314.890 nT
Tort / AHD / DDI / ERD ratio:	4.080° / 320.87 ft / 3.118 / 0.049	**Magnetic Dip:**	60.792°
Grid Coordinate System:	NAD83 New Mexico State Planes, Eastern Zone, US Feet	**Declination Date**	May 05, 2008
Location Lat/Long:	N 32 49 50.911, W 103 50 23.456	**Magnetic Declination Model:**	IGRF 2005
Location Grid N/E Y/X:	N 666334.974 ftUS, E 692917.091 ftUS	**North Reference:**	Grid North
Grid Convergence Angle:	+0 26755225°	**Total Corr Mag North -> Grid North:**	+7.851°
Grid Scale Factor:	0.99993540	**Local Coordinates Referenced To:**	Well Head

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (deg)	DLS (deg/100 ft)	Mag / Grav Tool Face (deg)	Build Rate (deg/100 ft)	Walk Rate (deg/100 ft)
Tie-In	0.00	0.00	142.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	100.00	0.00	142.24	100.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	200.00	0.00	142.24	200.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	300.00	0.00	142.24	300.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	400.00	0.00	142.24	400.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	500.00	0.00	142.24	500.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	600.00	0.00	142.24	600.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	700.00	0.00	142.24	700.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	800.00	0.00	142.24	800.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	900.00	0.00	142.24	900.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	1000.00	0.00	142.24	1000.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	1100.00	0.00	142.24	1100.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	1200.00	0.00	142.24	1200.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	1300.00	0.00	142.24	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	1400.00	0.00	142.24	1400.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	1500.00	0.00	142.24	1500.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	1600.00	0.00	142.24	1600.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	1700.00	0.00	142.24	1700.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
	1800.00	0.00	142.24	1800.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00
Build (KOP)	1900.00	0.00	142.24	1900.00	0.00	0.00	0.00	0.00	0.00	0.00	142.24M	0.00	0.00
	2000.00	2.00	142.24	1999.98	1.75	-1.38	1.07	1.75	142.24	2.00	142.24M	2.00	0.00
	2100.00	4.00	142.24	2099.84	6.98	-5.52	4.27	6.98	142.24	2.00	142.24M	2.00	0.00
EOB	2104.02	4.08	142.24	2103.85	7.26	-5.74	4.45	7.26	142.24	2.00	---	2.00	0.00
	2200.00	4.08	142.24	2199.58	14.09	-11.14	8.63	14.09	142.24	0.00	---	0.00	0.00
	2300.00	4.08	142.24	2299.33	21.21	-16.77	12.99	21.21	142.24	0.00	---	0.00	0.00
	2400.00	4.08	142.24	2399.08	28.32	-22.39	17.34	28.32	142.24	0.00	---	0.00	0.00
	2500.00	4.08	142.24	2498.82	35.44	-28.02	21.70	35.44	142.24	0.00	---	0.00	0.00
	2600.00	4.08	142.24	2598.57	42.55	-33.64	26.06	42.55	142.24	0.00	---	0.00	0.00
	2700.00	4.08	142.24	2698.32	49.67	-39.27	30.41	49.67	142.24	0.00	---	0.00	0.00
	2800.00	4.08	142.24	2798.06	56.79	-44.89	34.77	56.79	142.24	0.00	---	0.00	0.00
	2900.00	4.08	142.24	2897.81	63.90	-50.52	39.13	63.90	142.24	0.00	---	0.00	0.00
	3000.00	4.08	142.24	2997.56	71.02	-56.15	43.49	71.02	142.24	0.00	---	0.00	0.00
	3100.00	4.08	142.24	3097.30	78.13	-61.77	47.84	78.13	142.24	0.00	---	0.00	0.00
	3200.00	4.08	142.24	3197.05	85.25	-67.40	52.20	85.25	142.24	0.00	---	0.00	0.00
	3300.00	4.08	142.24	3296.80	92.36	-73.02	56.56	92.36	142.24	0.00	---	0.00	0.00
	3400.00	4.08	142.24	3396.54	99.48	-78.65	60.92	99.48	142.24	0.00	---	0.00	0.00
	3500.00	4.08	142.24	3496.29	106.59	-84.27	65.27	106.59	142.24	0.00	---	0.00	0.00
	3600.00	4.08	142.24	3596.04	113.71	-89.90	69.63	113.71	142.24	0.00	---	0.00	0.00
	3700.00	4.08	142.24	3695.78	120.83	-95.52	73.99	120.83	142.24	0.00	---	0.00	0.00
	3800.00	4.08	142.24	3795.53	127.94	-101.15	78.34	127.94	142.24	0.00	---	0.00	0.00
	3900.00	4.08	142.24	3895.28	135.06	-106.78	82.70	135.06	142.24	0.00	---	0.00	0.00

	4300 00	4 08	142 24	4294 26	163 52	-129 28	100 13	163 52	142 24	0 00	---	0 00	0 00
	4400 00	4 08	142 24	4394 01	170 64	-134 90	104 49	170 64	142 24	0 00	---	0 00	0 00
	4500 00	4 08	142 24	4493 75	177 75	-140 53	108 84	177 75	142 24	0 00	---	0 00	0 00
	4600 00	4 08	142 24	4593 50	184 87	-146 15	113 20	184 87	142 24	0 00	---	0 00	0 00
	4700 00	4 08	142 24	4693 25	191 98	-151 78	117 56	191 98	142 24	0 00	---	0 00	0 00
	4800 00	4 08	142 24	4792 99	199 10	-157 41	121 92	199 10	142 24	0 00	---	0 00	0 00
	4900 00	4 08	142 24	4892 74	206 21	-163 03	126 27	206 21	142 24	0 00	---	0 00	0 00
	5000 00	4 08	142 24	4992 49	213 33	-168 66	130 63	213 33	142 24	0 00	---	0 00	0 00
	5100 00	4 08	142 24	5092 23	220 45	-174 28	134 99	220 45	142 24	0 00	---	0 00	0 00
	5200 00	4 08	142 24	5191 98	227 56	-179 91	139 35	227 56	142 24	0 00	---	0 00	0 00
	5300 00	4 08	142 24	5291 73	234 68	-185 53	143 70	234 68	142 24	0 00	---	0 00	0 00
	5400 00	4 08	142 24	5391 47	241 79	-191 16	148 06	241 79	142 24	0 00	---	0 00	0 00
	5500 00	4 08	142 24	5491 22	248 91	-196 78	152 42	248 91	142 24	0 00	---	0 00	0 00
	5600 00	4 08	142 24	5590 97	256 02	-202 41	156 77	256 02	142 24	0 00	---	0 00	0 00
	5700 00	4 08	142 24	5690 71	263 14	-208 04	161 13	263 14	142 24	0 00	---	0 00	0 00
	5800 00	4 08	142 24	5790 46	270 25	-213 66	165 49	270 25	142 24	0 00	---	0 00	0 00
	5900 00	4 08	142 24	5890 21	277 37	-219 29	169 85	277 37	142 24	0 00	---	0 00	0 00
	6000 00	4 08	142 24	5989 95	284 49	-224 91	174 20	284 49	142 24	0 00	---	0 00	0 00
	6100 00	4 08	142 24	6089 70	291 60	-230 54	178 56	291 60	142 24	0 00	---	0 00	0 00
	6200.00	4 08	142 24	6189 44	298 72	-236 16	182 92	298 72	142 24	0 00	---	0 00	0 00
	6300 00	4 08	142 24	6289 19	305 83	-241 79	187 27	305 83	142 24	0 00	---	0 00	0 00
	6400 00	4 08	142 24	6388 94	312 95	-247 42	191 63	312 95	142 24	0 00	---	0 00	0 00
	6500 00	4 08	142 24	6488 68	320 06	-253 04	195 99	320 06	142 24	0 00	---	0 00	0 00
PBHL	6511 34	4 08	142 24	6500 00	320 87	-253 68	196 48	320 87	142 24	0 00	---	0 00	0 00

Proposal

Report Date:	May 5, 2008	**Survey / DLS Computation Method:**	Minimum Curvature / Lubinski
Client:	COG Operating, LLC	**Vertical Section Azimuth:**	142 240°
Field:	Eddy County, NM NAD83	**Vertical Section Origin:**	N 0 000 ft, E 0 000 ft
Structure / Slot:	Skelly Unit #974 / Skelly Unit #974	**TVD Reference Datum:**	RKB
Well	Skelly Unit #974	**TVD Reference Elevation**	0.0 ft relative to
Borehole:	Skelly Unit #974	**Sea Bed / Ground Level Elevation**	0 000 ft relative to
UWI/API#:		**Magnetic Declination:**	8 119°
Survey Name / Date:	Skelly Unit #974_r1 / May 5, 2008	**Total Field Strength**	49314 890 nT
Tort / AHD / DDI / ERD ratio:	4 080° / 320 87 ft / 3 118 / 0 049	**Magnetic Dip:**	60 792°
Grid Coordinate System	NAD83 New Mexico State Planes, Eastern Zone, US Feet	**Declination Date:**	May 05, 2008
Location Lat/Long:	N 32 49 50 911, W 103 50 23 456	**Magnetic Declination Model:**	IGRF 2005
Location Grid N/E Y/X:	N 666334 974 ftUS, E 692917 091 ftUS	**North Reference:**	Grid North
Grid Convergence Angle:	+0 26755225°	**Total Corr Mag North -> Grid North:**	+7 851°
Grid Scale Factor:	0 99993540	**Local Coordinates Referenced To:**	Well Head

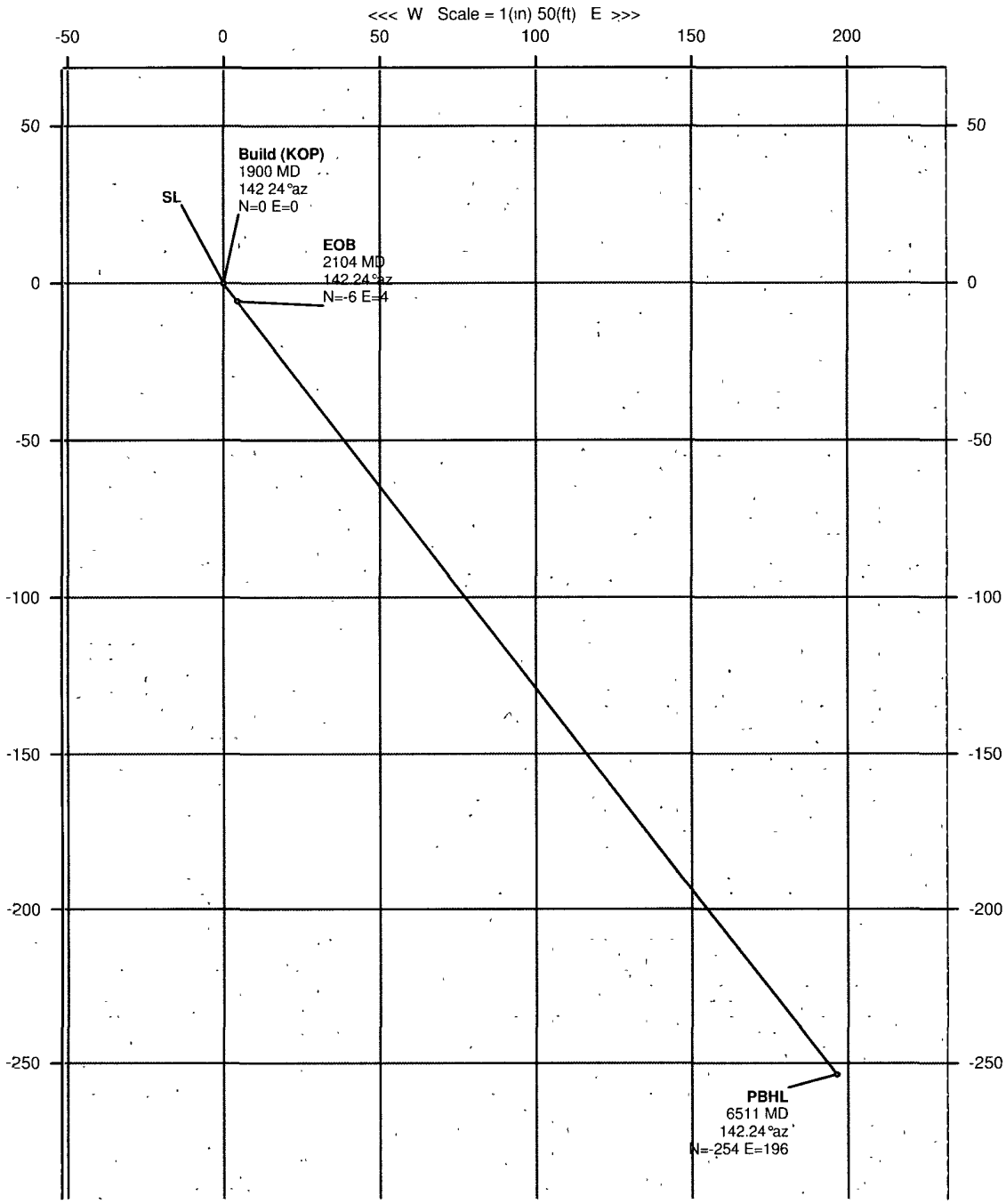
Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (deg)	DLS (deg/100 ft)	Mag / Grav Tool Face (deg)	Build Rate (deg/100 ft)	Walk Rate (deg/100 ft)
Tie-In	0 00	0 00	142 24	0 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	100 00	0 00	142 24	100 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	200 00	0 00	142 24	200 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	300 00	0 00	142 24	300 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	400 00	0 00	142 24	400 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	500 00	0 00	142 24	500 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	600 00	0 00	142 24	600 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	700 00	0 00	142 24	700 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	800 00	0 00	142 24	800 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	900 00	0 00	142 24	900 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	1000 00	0 00	142 24	1000 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	1100 00	0 00	142 24	1100 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	1200 00	0 00	142 24	1200 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	1300 00	0 00	142 24	1300 00	0 00	0 00	0 00	0.00	0 00	0 00	---	0 00	0 00
	1400 00	0 00	142 24	1400 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	1500 00	0 00	142 24	1500 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	1600 00	0 00	142 24	1600 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	1700 00	0 00	142 24	1700 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
	1800 00	0 00	142 24	1800 00	0 00	0 00	0 00	0 00	0 00	0 00	---	0 00	0 00
Build (KOP)	1900 00	0 00	142 24	1900 00	0 00	0 00	0 00	0 00	0 00	0 00	142 24M	0 00	0 00
	2000 00	2 00	142 24	1999 98	1 75	-1 38	1 07	1 75	142 24	2 00	142 24M	2 00	0 00
	2100 00	4 00	142 24	2099 84	6 98	-5 52	4 27	6 98	142 24	2 00	142 24M	2 00	0 00
EOB	2104 02	4 08	142 24	2103 85	7 26	-5 74	4 45	7 26	142 24	2 00	---	2 00	0 00
	2200 00	4 08	142 24	2199 58	14 09	-11 14	8 63	14 09	142 24	0 00	---	0 00	0 00
	2300 00	4 08	142 24	2299 33	21 21	-16 77	12 99	21 21	142 24	0 00	---	0 00	0 00
	2400 00	4 08	142 24	2399 08	28 32	-22 39	17 34	28 32	142 24	0 00	---	0 00	0 00
	2500 00	4 08	142 24	2498 82	35 44	-28 02	21 70	35 44	142 24	0 00	---	0 00	0 00
	2600 00	4 08	142 24	2598 57	42 55	-33 64	26 06	42 55	142 24	0 00	---	0 00	0 00
	2700 00	4 08	142 24	2698 32	49 67	-39 27	30 41	49 67	142 24	0 00	---	0 00	0 00
	2800 00	4 08	142 24	2798 06	56 79	-44 89	34.77	56 79	142 24	0 00	---	0 00	0 00
	2900 00	4 08	142 24	2897 81	63 90	-50 52	39 13	63 90	142 24	0 00	---	0 00	0 00
	3000 00	4 08	142 24	2997 56	71 02	-56 15	43 49	71 02	142 24	0 00	---	0 00	0 00
	3100 00	4 08	142 24	3097 30	78 13	-61 77	47 84	78 13	142 24	0 00	---	0 00	0 00
	3200 00	4 08	142 24	3197 05	85 25	-67 40	52 20	85 25	142 24	0 00	---	0 00	0 00
	3300 00	4 08	142 24	3296 80	92 36	-73 02	56 56	92 36	142 24	0 00	---	0 00	0 00
	3400 00	4 08	142 24	3396 54	99 48	-78 65	60 92	99 48	142 24	0 00	---	0 00	0 00
	3500 00	4 08	142 24	3496 29	106 59	-84 27	65 27	106 59	142 24	0 00	---	0 00	0 00
	3600 00	4 08	142 24	3596 04	113 71	-89 90	69 63	113 71	142 24	0 00	---	0 00	0 00
	3700 00	4 08	142 24	3695 78	120 83	-95 52	73 99	120 83	142 24	0 00	---	0 00	0 00
	3800 00	4 08	142 24	3795 53	127 94	-101 15	78 34	127 94	142 24	0 00	---	0 00	0 00
	3900 00	4 08	142 24	3895 28	135 06	-106 78	82 70	135 06	142 24	0 00	---	0 00	0 00
	4000 00	4 08	142 24	3995 02	142 17	-112 40	87 06	142 17	142 24	0 00	---	0 00	0 00
	4100 00	4.08	142 24	4094 77	149 29	-118 03	91 42	149 29	142.24	0.00	---	0 00	0 00
	4200 00	4.08	142 24	4194 51	156 40	-123 65	95 77	156 40	142 24	0 00	---	0 00	0 00

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (deg)	DLS (deg/100 ft)	Mag / Grav Tool Face (deg)	Build Rate (deg/100 ft)	Walk Rate (deg/100 ft)
	4000 00	4 08	142 24	3995.02	142 17	-112 40	87.06	142.17	142 24	0 00	---	0 00	0.00
	4100.00	4 08	142.24	4094 77	149 29	-118 03	91.42	149.29	142 24	0 00	---	0.00	0 00
	4200.00	4 08	142 24	4194.51	156 40	-123 65	95.77	156.40	142 24	0 00	---	0 00	0.00
	4300.00	4 08	142.24	4294 26	163.52	-129.28	100.13	163.52	142 24	0.00	---	0.00	0 00
	4400.00	4 08	142.24	4394 01	170.64	-134.90	104.49	170.64	142.24	0.00	---	0.00	0 00
	4500.00	4 08	142.24	4493 75	177.75	-140.53	108.84	177.75	142.24	0.00	---	0.00	0 00
	4600.00	4 08	142.24	4593.50	184.87	-146.15	113.20	184.87	142 24	0.00	---	0.00	0 00
	4700 00	4.08	142.24	4693.25	191.98	-151.78	117.56	191.98	142.24	0.00	---	0.00	0 00
	4800.00	4 08	142 24	4792.99	199.10	-157.41	121.92	199.10	142.24	0.00	---	0.00	0 00
	4900 00	4 08	142 24	4892.74	206 21	-163.03	126.27	206.21	142.24	0 00	---	0 00	0 00
	5000 00	4 08	142 24	4992.49	213.33	-168.66	130.63	213.33	142.24	0 00	---	0 00	0 00
	5100 00	4.08	142 24	5092 23	220 45	-174 28	134.99	220.45	142.24	0 00	---	0.00	0 00
	5200 00	4.08	142 24	5191 98	227.56	-179.91	139 35	227.56	142.24	0.00	---	0 00	0.00
	5300 00	4 08	142.24	5291 73	234 68	-185 53	143.70	234 68	142.24	0 00	---	0.00	0.00
	5400.00	4 08	142 24	5391 47	241 79	-191.16	148 06	241.79	142.24	0 00	---	0.00	0.00
	5500.00	4 08	142 24	5491 22	248.91	-196.78	152 42	248.91	142.24	0 00	---	0 00	0.00
	5600.00	4.08	142.24	5590.97	256.02	-202 41	156 77	256 02	142 24	0 00	---	0 00	0 00
	5700.00	4.08	142.24	5690 71	263.14	-208 04	161.13	263 14	142 24	0 00	---	0.00	0.00
	5800.00	4.08	142.24	5790.46	270.25	-213 66	165 49	270 25	142 24	0 00	---	0 00	0 00
	5900 00	4.08	142.24	5890.21	277.37	-219.29	169 85	277 37	142.24	0.00	---	0 00	0.00
	6000 00	4 08	142.24	5989.95	284.49	-224 91	174.20	284 49	142 24	0.00	---	0.00	0.00
	6100 00	4.08	142.24	6089.70	291 60	-230.54	178 56	291 60	142 24	0 00	---	0 00	0 00
	6200.00	4 08	142.24	6189.44	298 72	-236 16	182 92	298 72	142 24	0 00	---	0 00	0 00
	6300 00	4 08	142.24	6289.19	305 83	-241 79	187.27	305 83	142 24	0.00	---	0 00	0.00
	6400.00	4 08	142.24	6388.94	312 95	-247.42	191.63	312 95	142 24	0 00	---	0.00	0.00
	6500.00	4.08	142 24	6488.68	320 06	-253.04	195 99	320 06	142 24	0.00	---	0 00	0.00
PBHL	6511.34	4 08	142.24	6500.00	320 87	-253.68	196 48	320.87	142.24	0.00	---	0.00	0 00

COG Operating, LLC

WELL	FIELD	STRUCTURE
Skelly Unit #974	Eddy County, NM NAD83	Skelly Unit #974

Magnetic Parameters				Surface Location				NAD83 New Mexico State Planes Eastern Zone US Feet				Miscellaneous			
Model	IGRF 2005	Dip	60 792°	Date	May 05 2008	Lat	N32 49 50 911	Northing	666334 97 ftUS	Grid Conv	+0 26755225°	Slot	Skelly Unit #974	TVD Ref	RKB (0 00 ft above)
		Mag Dec	+8 119°	FS	49314 9 nT	Lon	W103 50 23 456	Easting	692917 09 ftUS	Scale Fact	0 9999354023	Plan	Skelly Unit #974_r1	Srvy Date	May 05 2008



INTREPID
Directional Drilling Specialists

CHEVRON USA, INC.
COG OPERATING, LLC- Agent

HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN
FOR DRILLING / COMPLETING / WORKOVER / FACILITY
WITH THE EXPECTATION OF H2S IN EXCESS OF 100 PPM

CHEVRON USA, INC.
C.O.G. Operating, LLC - Agent
NEW DRILL WELL
Skelly Unit # 974
SL: 1245' FSL & 2505' FEL, Unit O
BHL: 990' FSL & 2310' FEL, Unit O
Sec 14, T17S, R31E
Eddy County, New Mexico

This well / facility is not expected to have H2S, but the following is submitted as requested.

TABLE OF CONTENTS

GENERAL H2S EMERGENCY ACTIONS

In the event of any evidence of 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 representative 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 coordinate 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 representative if not on location.
4. Set in motion the steps to protect and / or remove the general public to any upwind "safe are". Maintain strict security and safety procedures while dealing with the source.
5. No entry to any unauthorized personnel.
6. Notify the appropriate agencies:
   City Police - City streets
   State Police - State Roads
   County Sheriff - County Roads
7. Call the NMOCD.

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 immediately notify public safety personnel.

EMERGENCY CALL LIST

	Office	Cell	Home
John Coffman	432-683-7443	432-631-9762	432-699-5552
Erick Nelson	432-683-7443	432-238-7591	
Matt Corser	432-683-7443	432-413-0071	

EMERGENCY RESPONSE NUMBERS

Eddy County, New Mexico

State Police	**505-748-9718**
Eddy County Sheriff	**505-746-2701**
Emergency Medical Services (Ambulance)	**911 or 505-746-2701**
Eddy County Emergency Management (Harry Burgess)	**505-887-9511**
State Emergency Response Center (SERC)	**505-476-9620**
Carlsbad Police Department	**505-885-2111**
Carlsbad Fire Department	**505-885-3125**
New Mexico Oil Conservation Division	**505-748-1283**
Callaway Safety Equipment, Inc.	**505-392-2973**

PROTECTION OF THE GENERAL (ROE) RADIUS OF EXPOSURE

In the event greater than 100 ppg H2S is present, the ROE 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: (H2S concentrations in decimal form)

X = [(1.589)(concentration)(Q)] (0.6258) 10,000 ppm + = .01
1,000 ppm + = .001

Calculation for the 500 ppm ROE: 100 ppm + = .0001
10 ppm + = .00001

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 200 MCFD then:

ROE for 100 ppm X=[(1.589)(.00010)(200,000)] (0.6258)
X=8.8'

ROE for 500 ppm X=[(.4546)(.00050)(200,000)] (0.6258)
X=10.9'

These calculations will be forwarded to the appropriate NMOCD district 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. 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, oxygen, and flammable 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 representative shall stay in communication with all agencies throughout the duration of the situation and inform such agencies when the situation has been contained and the effected area is safe to enter.

PROCEDURE FOR IGNITING AN UNCONTROLLABLE 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 endangered.

2. There is no hope of bringing the situation under control with the prevailing conditions at the site.

Instructions for Igniting the Well:

1. Two people are required. They must be equipped with positive pressure, self-contained breathing apparatus and "D"-ring style, full body, OSHA approved safety harness. Non-flammable rope will be attached.

2. One of the people will be a qualified safety person who will test the atmosphere for H2S, oxygen and LFL. The other person will be the company representative.

3. Ignite upwind from a distance no closer than necessary. Make sure that where you ignite from has the maximum escape avenue available. A 25mm flare gun with a range of approximately +/- 500 feet shall be used to ignite the gas.

4. Before igniting, check for the presence of combustible gases.

5. After igniting, continue emergency actions and 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 and 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. Windsocks

* Two windsocks will be placed in strategic locations, visible from all angles.

5. H2S Detectors and Alarms

* 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 alarm @ 15 ppm. Calibrate a minimum of every 30 days or as needed. The three 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 is being discharged

6. Auxiliary Rescue Equipment

* Stretcher
* Two OSHA full body harnesses
* 100' of 5/8" OSHA approved rope
* One 20 lb. Class ABC fire extinguisher
* Communication via cell phones on location and vehicles on location

USING SELF-CONTAINED BREATHING AIR EQUIPMENT (SCBA)

1. 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 of H2S has been detected.
    * At any time there is a doubt of the level of H2S in the area.

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

3. Facial hair and standard eyeglasses are not allowed with SCBA.

4. Contact lenses are never allowed with SCBA.

5. When breaking out any line where H2S can reasonably be expected.

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

7. All SCBA shall be inspected monthly.

RESCUE & FIRST AID FOR VICTIMS OF H2S POISONING

* Do not panic.

* Remain calm and think.

---

* Get on the breathing apparatus.

* Remove the victim to the safe breathing area as quickly as possible, upwind and uphill from source or crosswind 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.

Toxic Effects of H2S Poisoning

Hydrogen Sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 PPM, which is .001% by volume. Hydrogen Sulfide is heavier than air (specific gravity-1.192) and is colorless and transparent. Hydrogen Sulfide is almost as toxic as Hydrogen Cyanide and is 5-6 times more toxic that Carbon Monoxide. Occupational exposure limits for Hydrogen sulfide and other gasses are compared below in Table 1. toxicity table for H2S and physical effects are shown in Table II.

Table 1
Permissible Exposure Limits of Various Gasses

Common Name	Symbol	Sp. Gravity	TLV	STEL	IDLH
Hydrogen Cyanide	HCN	.94	4.7 ppm	C	
Hydrogen Sulfide	H2S	1.192	10 ppm	15 ppm	100 ppm
Sulfide Dioxide	SO2	2.21	2 ppm	5 ppm	
Chlorine	CL	2.45	.5 ppm	1 ppm	
Carbon Monoxide	CO	.97	25 ppm	200 ppm	
Carbon Dioxide	CO2	1.52	5000 ppm	30,000 ppm	
Methane	CH4	.55	4.7% LEL	14% UEL	

Definitions

A. TLV – Threshold Limit Value is the concentration employees may be exposed to based on a TWA (time weighted average) for eight (8) hours in one day for 40 hours in one (1) week. This is set by ACGIH (American Conference of Governmental Hygienists and regulated by OSHA.

B. STEL – Short Term Exposure Limit is the 15 minute average concentration an employee may be exposed to providing that the highest exposure never exceeds the OEL (Occupational Exposure Limit). The OEL for H2S is 19 PPM.

C. IDLH – Immediately Dangerous to Life and Health is the concentration that has been determined by the ACGIH to cause serious health problems or death if exposed to this level. The IDLH for H2S is 100 PPM.

D. TWA – Time Weighted Average is the average concentration of any chemical or gas for an eight (8) hour period. This is the concentration that any employee may be exposed to based on an TWA.

TABLE II
Toxicity Table of H2S

Percent %	PPM	Physical Effects
~~.0001~~	~~1~~	~~Can smell less than 1 ppm.~~
.001	10	TLV for 8 hours of exposure
.0015	15	STEL for 15 minutes of exposure
.01	100	Immediately Dangerous to Life & Health. Kills sense of smell in 3 to 5 minutes.
.02	200	Kills sense of smell quickly, may burn eyes and throat.
.05	500	Dizziness, cessation of breathing begins in a few minutes.
.07	700	Unconscious quickly, death will result if not rescued promptly.
.10	1000	Death will result unless rescued promptly. Artificial resuscitation may be necessary.

PHYSICAL PROPERTIES OF H2S

The properties of all gasses are usually described in the context of seven major categories:

COLOR
ODOR
VAPOR DENSITY
EXPLOSIVE LIMITS
FLAMMABILITY
SOLUBILITY (IN WATER)
BOILING POINT

Hydrogen Sulfide is no exception. Information from these categories should be considered in order to provide a fairly complete picture of the properties of the gas.

COLOR – TRANSPARENT

Hydrogen Sulfide is colorless so it is invisible. This fact simply means that you can't rely on your eyes to detect its presence, a fact that makes the gas extremely dangerous to be around.

ODOR – ROTTEN EGGS

Hydrogen Sulfide has a distinctive offensive smell, similar to "rotten eggs". For this reason it earned its common name "sour gas". However, H2S, even in low concentrations, is so toxic that it attacks and quickly impairs a victim's sense of smell, so it could be fatal to rely on your nose as a detection device.

VAPOR DENSITY – SPECIFIC GRAVITY OF 1.192

Hydrogen Sulfide is heavier than air so it tends to settle in low-lying areas like pits, cellars or tanks. If you find yourself in a location where H2S is known to exist, protect yourself. Whenever possible, work in an area upwind and keep to higher ground.

EXPLOSIVE LIMITS – 4.3% TO 46%

Mixed with the right proportion of air or oxygen, H2S will ignite and burn or explode, producing another alarming element of danger besides poisoning.

FLAMMABILITY

Hydrogen Sulfide will burn readily with a distinctive clear blue flame, producing Sulfur Dioxide (SO2), another hazardous gas that irritates the eyes and lungs.

SOLUBILITY – 4 TO 1 RATIO WITH WATER

Hydrogen Sulfide can be dissolved in liquids, which means that it can be present in any container or vessel used to carry or hold well fluids including oil, water, emulsion and sludge. The solubility of H2S is dependent on temperature and pressure, but if conditions are right, simply agitating a fluid containing H2S may release the gas into the air.

BOILING POINT – (-76 degrees Fahrenheit)

Liquefied Hydrogen Sulfide boils at a very low temperature, so it is usually found as a gas.

SURFACE USE AND OPERATIONS PLAN
FOR DRILLING, COMPLETION, AND PRODUCING

Chevron USA, Inc.- Operator
COG Operating, LLC – Operator's Agent
Skelly Unit # 974
SL: 1245' FSL & 2505' FEL, Unit O
BHL: 990' FSL & 2310' FEL, Unit O
Sec 14, T17S, R31E
Eddy County, New Mexico

LOCATED:

Approximately 6 miles East of Loco Hills, New Mexico

OIL & GAS LEASE

NMLC # 0029418A
NMLC # 0029418A

RECORD TITLE LESSEE

SL: The Wiser Oil Company 8115 Preston Road # 400, Dallas, TX 75225
BHL: The Wiser Oil Company 8115 Preston Road # 400, Dallas, TX 75225

BOND COVERAGE

$200,000 nationwide bond of Chevron USA, Inc. CA-0329

SURFACE OWNER

Bureau of Land Management 620 East Greene Street, Carlsbad, NM 88220

MINERAL OWNER

Bureau of Land Management 620 East Greene Street, Carlsbad, NM 88220

POOL

Fern; Glorietta-Yeso

PROPOSED TOTAL DEPTH

This well will be drilled to a Total Measured Depth of approximately 6,400'.

EXHIBITS

A. Well Location & Acreage Dedication Map
B. Area Road Map
C. Vicinity Oil & Gas Map
D. Topographic & Location Verification Map
E. Proposed Lease Road and Pad Layout Map
F. Drilling Rig Layout
G. BOPE Schematic
H. Choke Manifold Schematic

EXISTING ROADS

A. Exhibit A is a portion of a section map showing the location of the proposed well as staked.

B. Exhibit B is a map showing existing roads in the vicinity of the proposed well site.

C. Directions to well location:
From the mile marker 140 of US HWY 82, go east 0.2 miles to lease road, on lease road go north 0.2 miles to lease road, on lease road go northerly 0.4 miles to proposed location.

ACCESS ROADS

A. Access Road: No Right of Way necessary as pad is to be located directly off of existing roadway.

B. Surface Material: Existing

C. Maximum Grad: Less than five percent

D. Turnouts: None necessary

E. Drainage Design: Existing

F. Culverts: None necessary

G. Gates and Cattle Guards: None needed

LOCATION OF EXISITING WELLS

Existing wells in the immediate area are shown in Exhibit C.

LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

Necessary production facilities for this well will be located on the well pad.

LOCATION AND TYPE OF WATER SUPPLY

It is not contemplated that a water well will be drilled. Water necessary for drilling will be purchased and hauled to the site over existing roads shown on Exhibit B.

METHODS OF HANDLING WASTE DISPOSAL

A. Drilling fluids will be allowed to evaporate in the drilling pits until the pits are dry.

B. Water produced during tests will be disposed of in the drilling pits.

C. Oil produced during tests will be stored in test tanks.

D. Trash will be contained in a trash trailer and removed from well site.

E. All trash and debris will be removed from the well site within 30 days after finishing drilling and/or completion operations.

ANCILLARY FACILITIES

None required.

WELL SITE LAYOUT

Exhibits G and H show the relative location and dimensions of the well pad, mud pits, reserve pit, and trash pit, and the location of major rig components.

PLANS FOR RESTORATION OF THE SURFACE

A. After completion of drilling and/or completion operations, all equipment and other material not needed for operations will be removed. The well site will be cleaned of all trash and junk to leave the site in an as aesthetically pleasing condition as possible.

B. After abandonment, all equipment, trash, and junk will be removed and the site will be clean.

OTHER INFORMATION

A. Topography: The topography consists of sandy soil with native grasses. No wildlife was observed, but the usual inhabitants of this region are Jackrabbits, Reptiles, Coyotes, etc.

B. Soil: Topsoil at the well site is sandy soil.

C. Flora and Fauna: The location is in an area sparsely covered with mesquite and range grasses.

D. Ponds and Streams: There are no rivers, lakes, ponds, or streams in the area.

E. Residences and Other Structures: There are no residences within a mile of the proposed well site.

F. Archaeological, Historical, and Cultural sites: An Archaeological Survey has been ordered and a copy to be sent to the BLM Office.

G. Land Use: Grazing

OPERATOR'S REPRESENTATIVE

John Coffman
C.O.G. Operating, LLC
550 W. Texas Ave, Suite 1300
Midland, TX 79701
(432) 683-7443

CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be preformed by the C.O.G. Operating, LLC Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

4/11/08
Date

John Coffman
C.O.G. Operating, LLC

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Chevron USA
LEASE NO.:	NMLC029418A
WELL NAME & NO.:	Skelly Unit No 974
SURFACE HOLE FOOTAGE:	1245' FSL & 2505' FEL
BOTTOM HOLE FOOTAGE	990' FSL & 2310' FEL
LOCATION:	Section 14, T. 17 S., R 31 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)

Mitigation Measures: The mitigation measures include the Pecos District Conditions of Approval, and the standard stipulation for the lesser prairie chicken.

The Skelly Unit # 974 well pad needs to be built to a maximum of 100 feet to the east with a V-door to the south. The building of this proposed well pad will need to be monitored during initial construction to prevent cutting into the dunes and blowouts to the eastern side of the proposed well pad.

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, geophysical exploration other than 3-D operations, and 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 ft. from the source of the noise.

Skelly Unit # 974: Closed Loop System V-Door South

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 (505) 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 of the well pad. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

Closed Loop System

Skelly Unit # 974: Closed Loop System V-Door South

Tanks are required for drilling operations: No Pits.

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

C. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the
Carlsbad Field Office at (505) 234-5972.

D. 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.

E. 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.

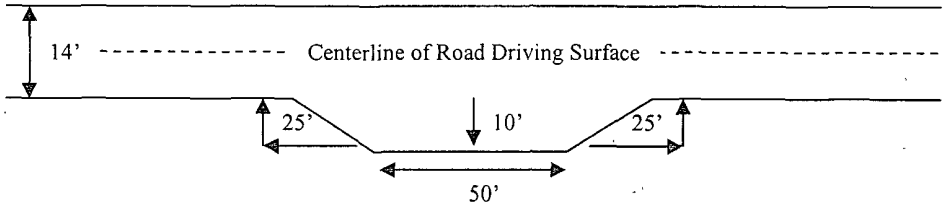
Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

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:

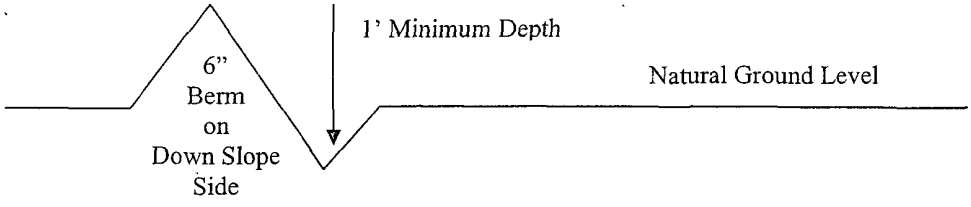
Standard Turnout – Plan View



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:

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

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.

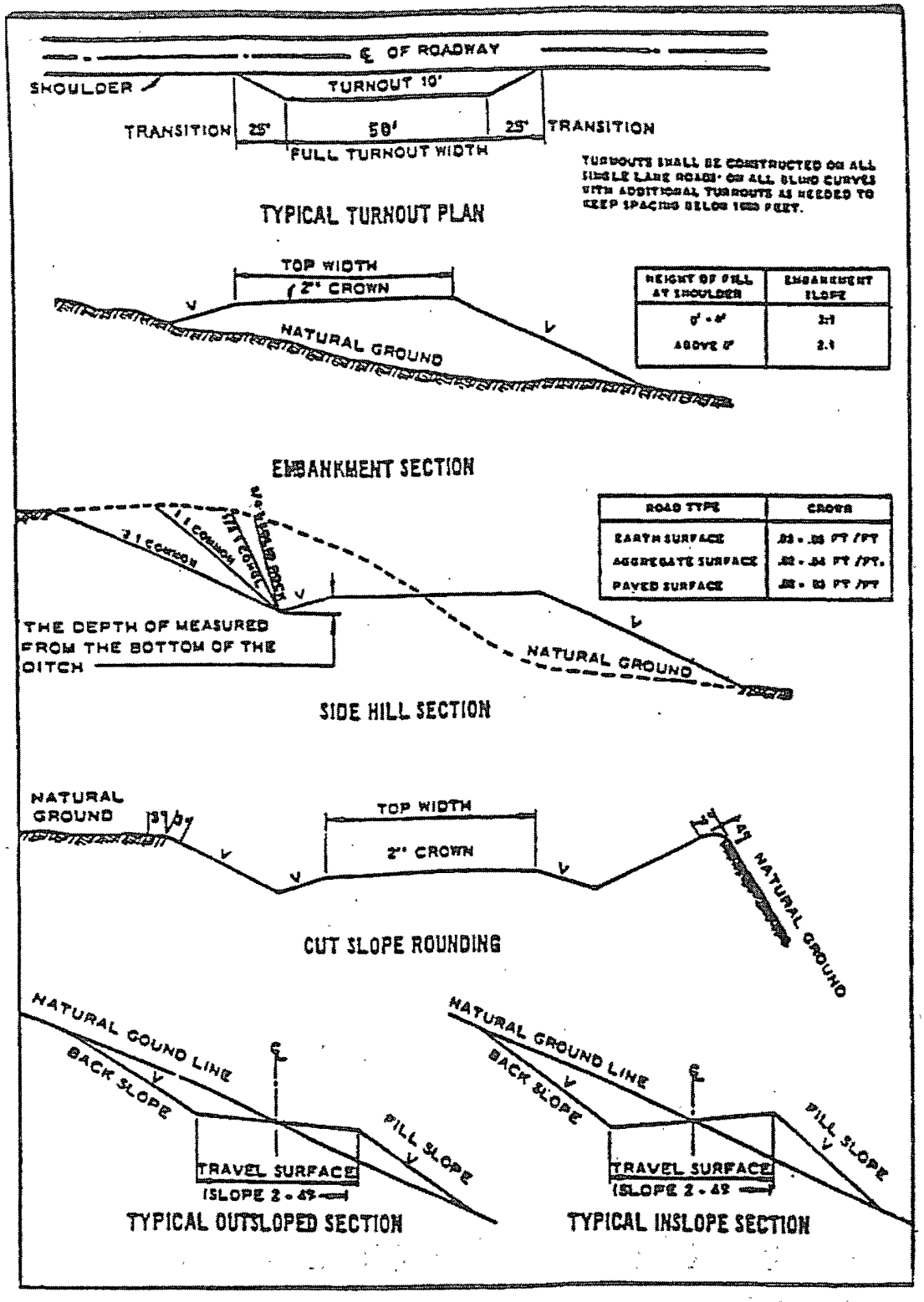
A gate shall be constructed and fastened securely to H-braces.

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. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **Queen** formation. **Gas stream measurements are between 1000-3000 ppm and in STVs 16-5000 ppm.**

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.

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work.

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

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string.

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

Possible lost circulation in the Grayburg and San Andres formations.
Possible water and brine flows in the Salado and Artesia Groups.

1. The **13-3/8** inch surface casing shall be set **at approximately 450 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.

b. Wait on cement (WOC) time 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. (This is to include the lead cement).

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 **8-5/8** inch intermediate casing is:

   ☒ Cement to surface. If cement does not circulate see B.1.a-d above.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

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

   a. The tests shall be done by an independent service company.

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

c. 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.

d. 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.

e. A variance to test the surface casing and BOP/BOPE **(entire system)** to the reduced pressure of **1000** psi with the rig pumps is approved. **Test of entire system is required per Onshore Order 2.III.A.2.i. Supersedes sundry of 3/27/2008.**

D. DRILL STEM TEST

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

WWI 052008

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

B. PIPELINES

C. ELECTRIC LINES

IX. INTERIM RECLAMATION

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting 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.

The operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions 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 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.

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 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 see 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

(Insert Seed Mixture Here)

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.