District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-101
June 16, 2008

Submit to appropriate District Office

☐ AMENDED REPORT

RECEIVED
MAR 23 2010
NMOCD ARTESIA

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

[1] Operator Name and Address	[2] OGRID Number
ECHO PRODUCTION, INC. P. O. BOX 1210 GRAHAM, TEXAS 76450	6744
	API NUMBER 30-15-37716

[3] Property Code	[4] Property Name	[5] Well No.
	STILETTO "16" STATE	# 5H

[9] Proposed Pool 1	[10] Proposed Pool 2
CEMETERY-YESO (117950	

[7] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	16	20S	25E		380'	NORTH	380'	EAST	EDDY

[8] Proposed 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
P	16	20S	25E		330'	South	330'	East	EDDY

Additional Well Information

[11] Work Type Code	[12] Well Type Code	[13] Cable/Rotary	[14] Lease Type Code	[15] Ground Level Elevation
N	O	ROTARY	S	3462'
[16] Multiple	**[17] Proposed Depth**	**[18] Formation**	**[19] Contractor**	**[20] Spud Date**
NO	TVD-2950' MD-7240'	YESO	CAVALOS DRILLING	WHEN APPROVED

[21] Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
30"	20"	Conductor	40'	Redi-mix	SURFACE
12¼"	9 5/8"	36#	900'	400 Sx	SURFACE
8 3/4"	5½"	17#	7240'	456 Sx.	SURFACE

[22] Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

SEE ATTACHED SHEET FOR DETAIL

[23] I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature: Joe T. Janica

Printed name: Joe T. Janica

Title: Permit Eng.

E-mail Address: joejanica@valornet.com

Date: 03/23/10 Phone: 575-391-8503

OIL CONSERVATION DIVISION

Approved by: Jaqun Rees

Title: Geologist

Approval Date: 3/31/2010 Expiration Date: 3/31/2012

Conditions of Approval Attached ☐

BOP TEST MUST BE PERFORMED BY 3RD PARTY, PER DISTRICT 2 SUPERVISOR

1. Drill 30" hole to 40'. Set 40' of 20" conductor pipe and cement to surface with Redi-mix.

2. Drill 12¼" hole to 900'. Run and set 900' of 9 5/8" 36# J-55 ST&C casing. Cement with 400 Sx. of Class "C" Premium Plus cement + 1/4# Flocele/Sx, + 2% CaCl Yield 1.34, circulate cement to surface.

3. Drill 8 3/4" hole to 3200', log well and set a KO plug back to 2200'Pick up drilling toc tools and drill deviated hole to 2950', continue drilling horizontal hole to a MD of 7240'. Run and set 7240' of 5½" 17# N-80 LT&C casing, set a DV Tool at 2600±', The section from 2600' to 7240' will not be cemented but treated with swell packer slev sleeve. Casing from 2600' to surface will be cemented with 456 Sx. of Class "C" ce, Premium Plus cement + 2% CaCl, + 1/4# flocele/Sx. yield 1.34, circulate cement to surface.

Joe Janica

From: Ken Seligman [ken.s@echoproduction.com]
Sent: Friday, March 19, 2010 12:32 PM
To: joejanica@valornet.com
Subject: Stiletto '16' State 1H

Joe,
Here's the cement and csg info:

Hole Size	Csg Type	Csg Wt.	Setting Depth	Sx.Cmt	Est. TOC
30"	20"	52.8#	40'	80sx	Surf.
12 ¼"	9 5/8"	36#	900'	400sx	Surf.
8 ¾"	5 ½"	17#	7240'	456sx	Surf.

Set 20" conductor 40', Drill 12 ¼" hole to 900' w/ Fresh water and set 9 5/8" 36# J-55, Cmt. to Surf. Drill 8 ¾" pilot hole to 3200+/-, log and plug back w/cmt. to 2200'. Pickup Dir. Tools and drill to new BHL (TVD 2950'-2850', TD 7240+/-. Run 5 ½" 17# N-80 csg. To TD and Stage complete "Yeso" w/ OH packers to approx. 2600', & cmt. to Surf. w/ DV tool @ 2600'.

Let me know what else you need.

Thanks,
Ken

Ken Seligman
Engineer
Echo Production

Off: 940 549-3292
Mb: 940 550-4390
Fax: 940 549-5162

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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 15, 2009

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-37716	11795	CEMETERY-YESO ✓

Property Code	Property Name	Well Number
34361	STILETTO "16" STATE	5H

OGRID No.	Operator Name	Elevation
6742	ECHO PRODUCTION CO.	3462'

Surface Location

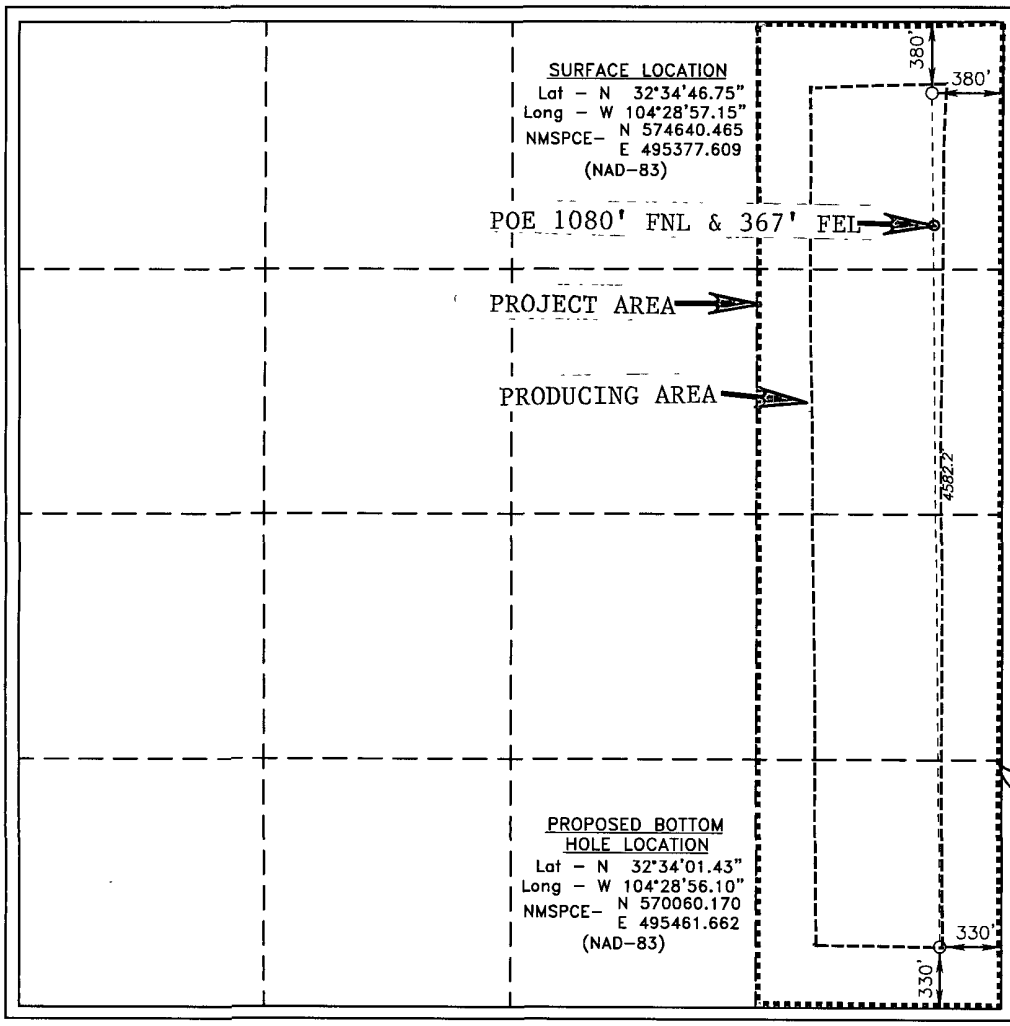
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	16	20 S	25 E		380	NORTH	380	EAST	EDDY

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
P	16	20 S	25 E		330	SOUTH	330	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



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 or has a right to drill this well at this 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.

Joe T. Janica

Signature Date

Joe T. Janica 03/23/10

Printed Name

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.

FEBRUARY 25, 2010

Date Surveyed

Signature & Seal of Professional Surveyor

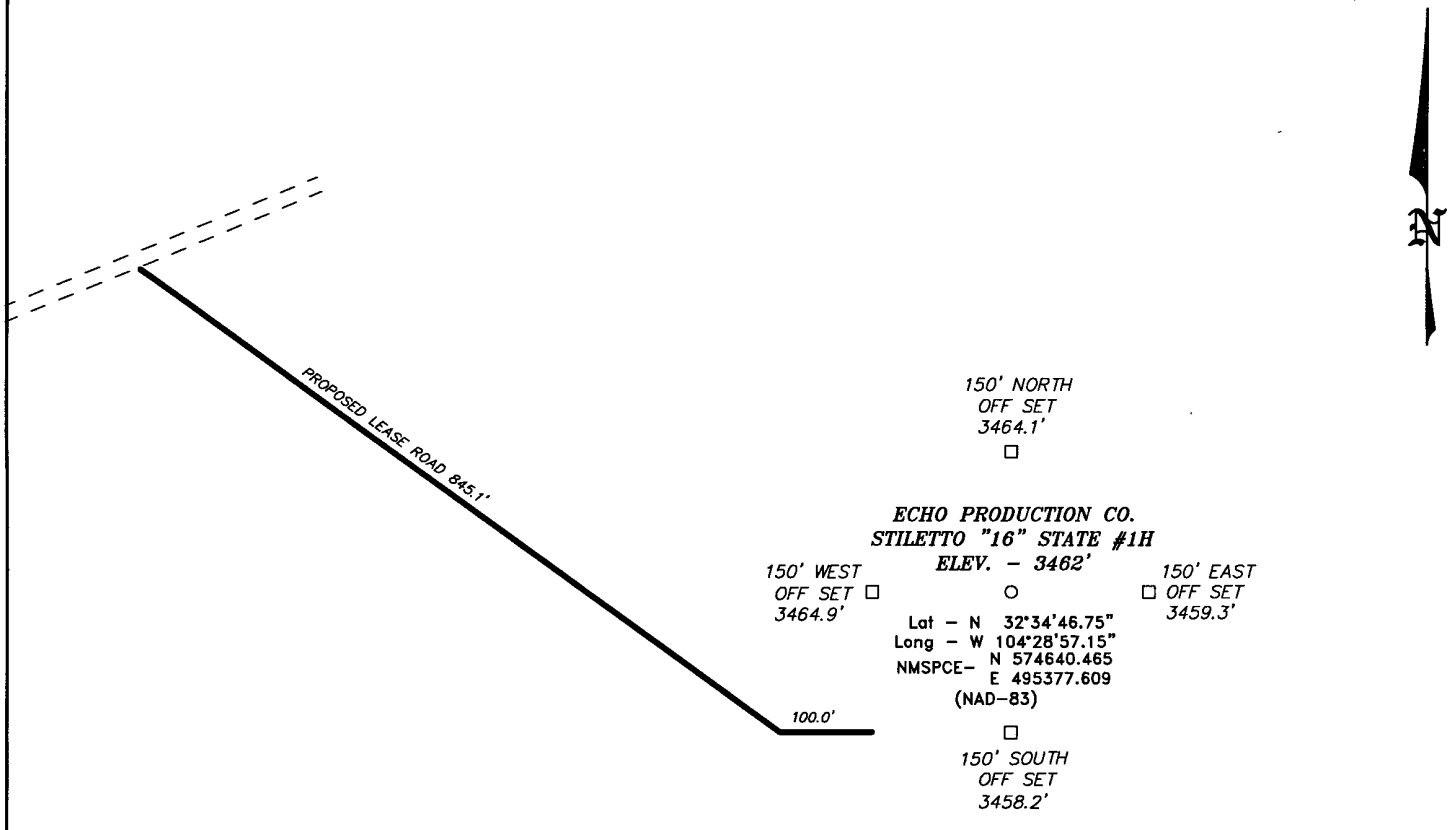
GARY L. JONES 7977

W.O. No. 22410

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

SECTION 16, TOWNSHIP 20 SOUTH, RANGE 25 EAST, N.M.P.M.,
EDDY COUNTY, **NEW MEXICO.**



200 0 200 400 FEET

SCALE: 1" = 200'

Directions to Location:

FROM THE JUNCTION OF HWY 285 AND WHITE PINE, GO WEST 4.0 MILE TO PICKET ROAD, ON PICKET ROAD GO NORTH 0.4 MILES TO BEND OF COUNTY ROAD, FOLLOW LEASE ROAD NORTHEASTERLY 0.9 MILES TO PROPOSED LEASE ROAD.

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

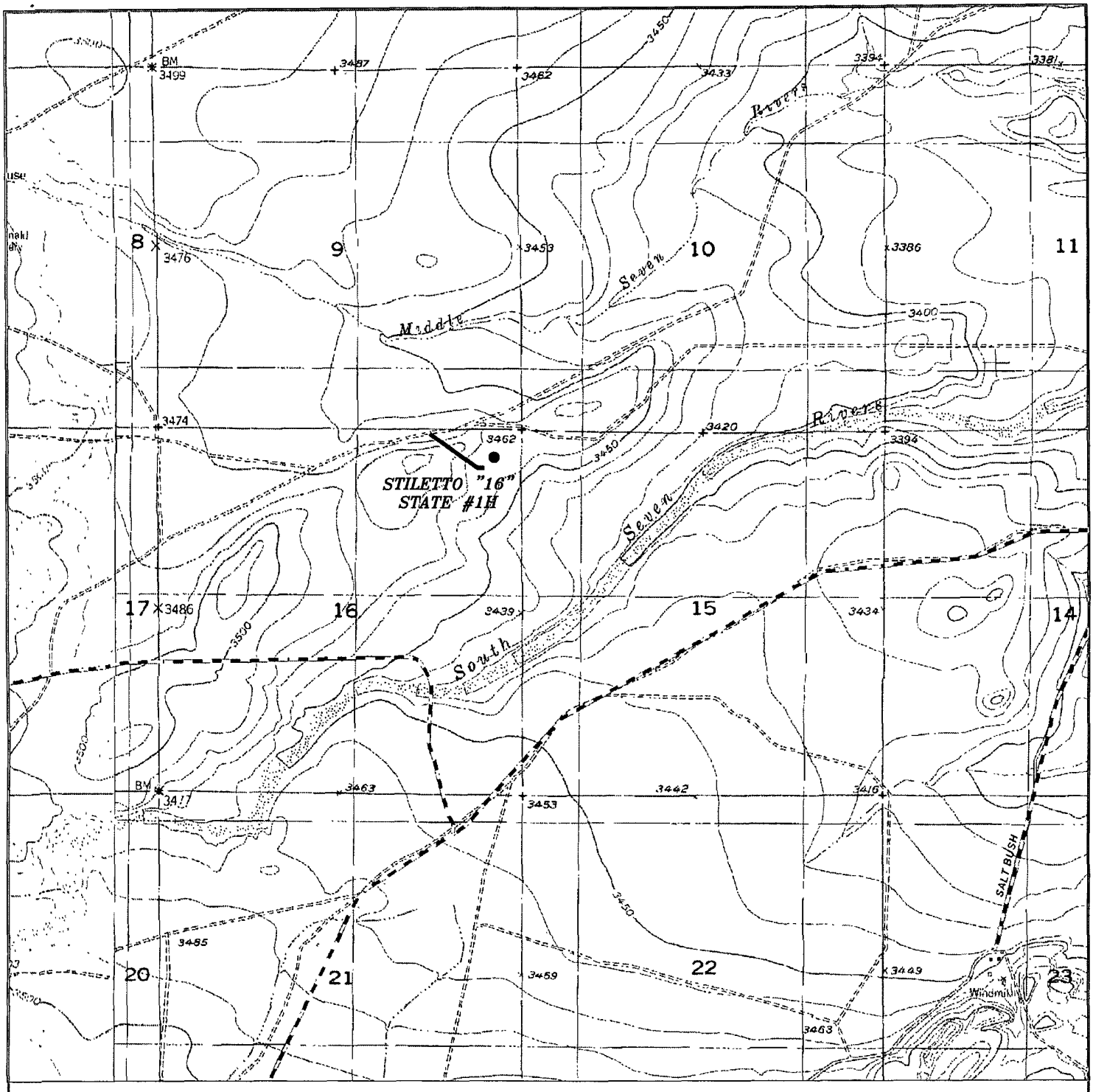
W.O. Number: 22524	Drawn By: J. SMALL
Date: 03-01-2010	Disk: JMS 22524

ECHO PRODUCTION CO.

REF: STILETTO "16" STATE #1H / WELL PAD TOPO

THE STILETTO "16" STATE #1H LOCATED 380' FROM THE NORTH LINE AND 380' FROM THE EAST LINE OF SECTION 16, TOWNSHIP 20 SOUTH, RANGE 25 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 02-25/03-10-10 | Sheet 1 of 1 Sheets



STILETTO "16" STATE #1H
Located 380' FNL and 380' FEL
Section 16, Township 20 South, Range 25 East,
N.M.P.M., Eddy County, New Mexico.

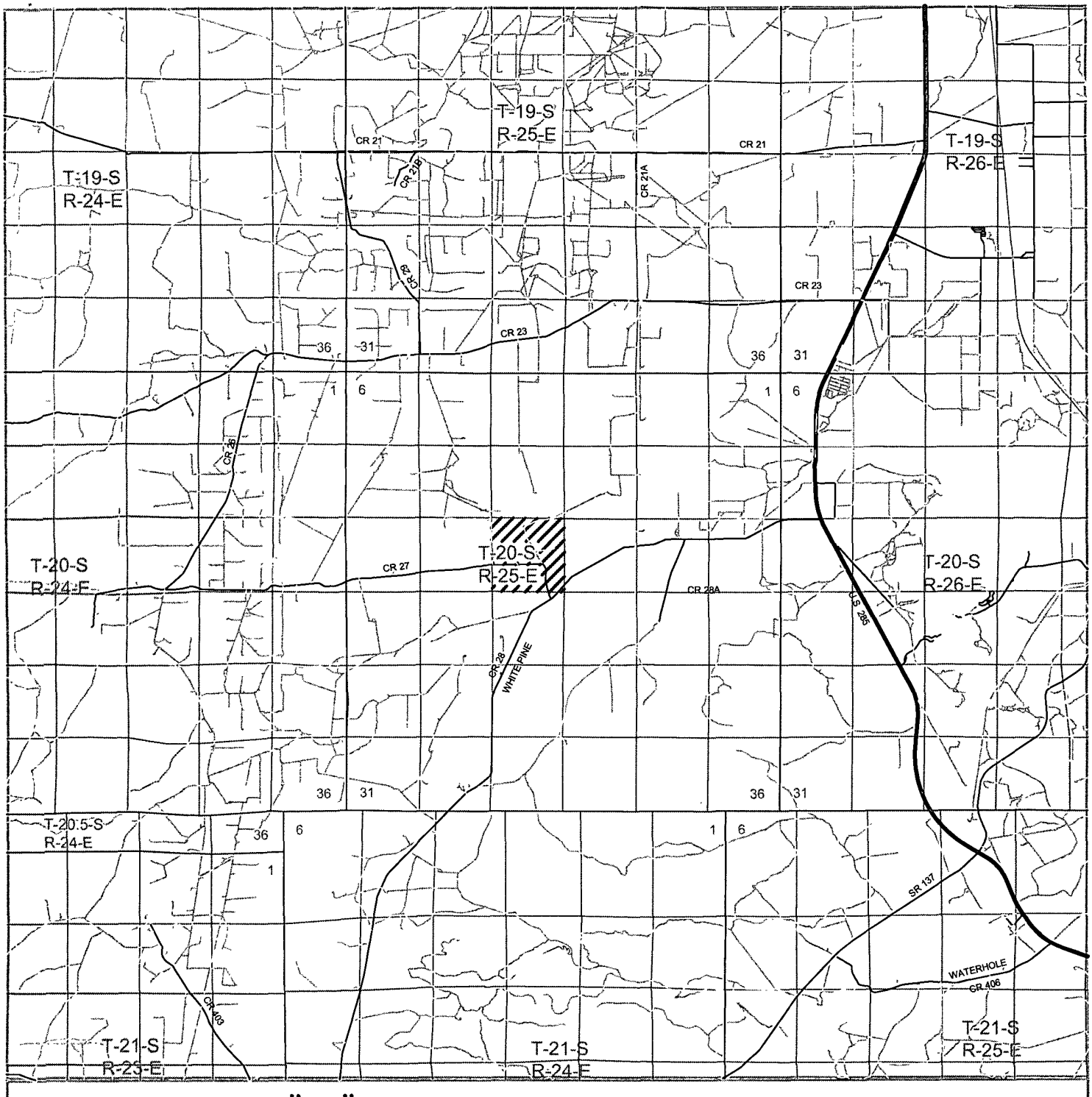
basin surveys
focused on excellence in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number:	JMS 22524
Survey Date:	02-25/03-19-2010
Scale:	1" = 2000'
Date:	03-22-2010

N

ECHO PRODUCTION CO.



STILETTO "16" STATE #1H
Located 380' FNL and 380' FEL
Section 16, Township 20 South, Range 25 East,
N.M.P.M., Eddy County, New Mexico.

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Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

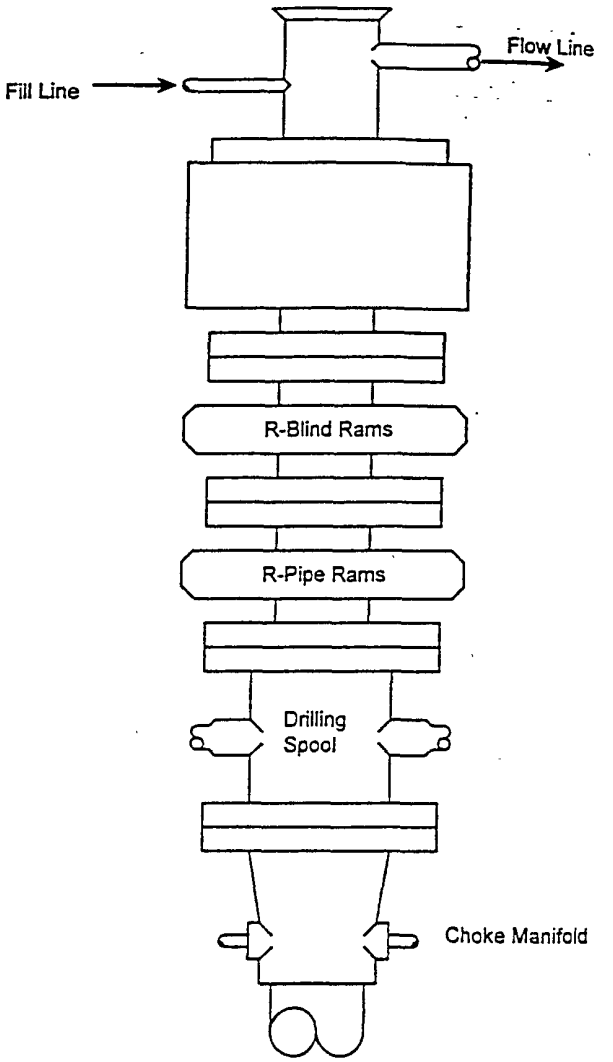
W.O. Number:	JMS 22410
Survey Date:	02-25-2010
Scale:	1" = 2 Miles
Date:	03-01-2010

N

ECHO PRODUCTION CO.

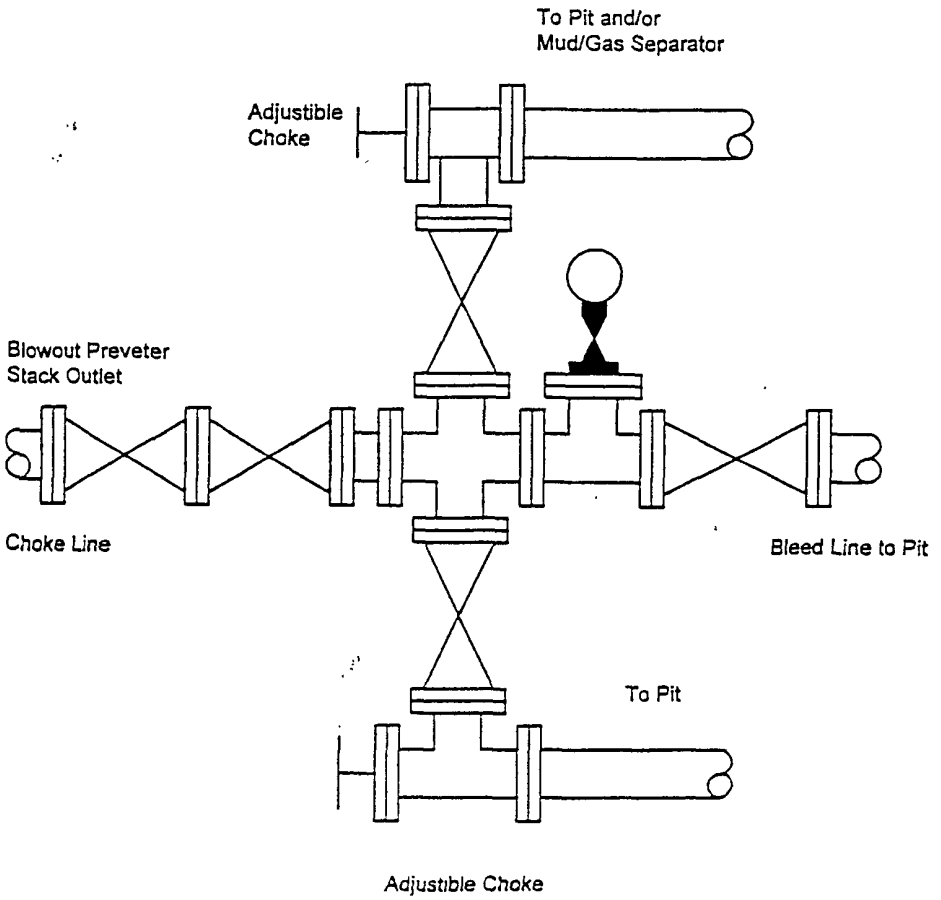
BLOWOUT PREVENTER SYSTEM

3000 PSI



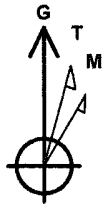
Type 900 SERIES
3000 PSI WP

Choke Manifold Assembly for 5M WP System



Echo Production CO

Project: Eddy County
Site: Stiletto "16" State
Well: #1H
Wellbore: OH
Plan: Plan #1 (#1H/OH)



Azimuths to Grid North
True North: 0.08°
Magnetic North: 8.24°

Magnetic Field
Strength: 48882.9snT
Dip Angle: 60.40°
Date: 03/18/2010
Model: IGRF200510

PATHFINDER

PROJECT DETAILS: Eddy County
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level
Local North: Grid

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2268.00	0.00	0.00	2268.00	0.00	0.00	0.00	0.00	0.00	
3	3357.51	91.50	178.95	2950.00	-699.98	12.83	8.40	178.95	700.09	
4	7239.82	91.50	178.95	2848.37	-4580.30	83.95	0.00	0.00	4581.07	PBHL(STI#1H)

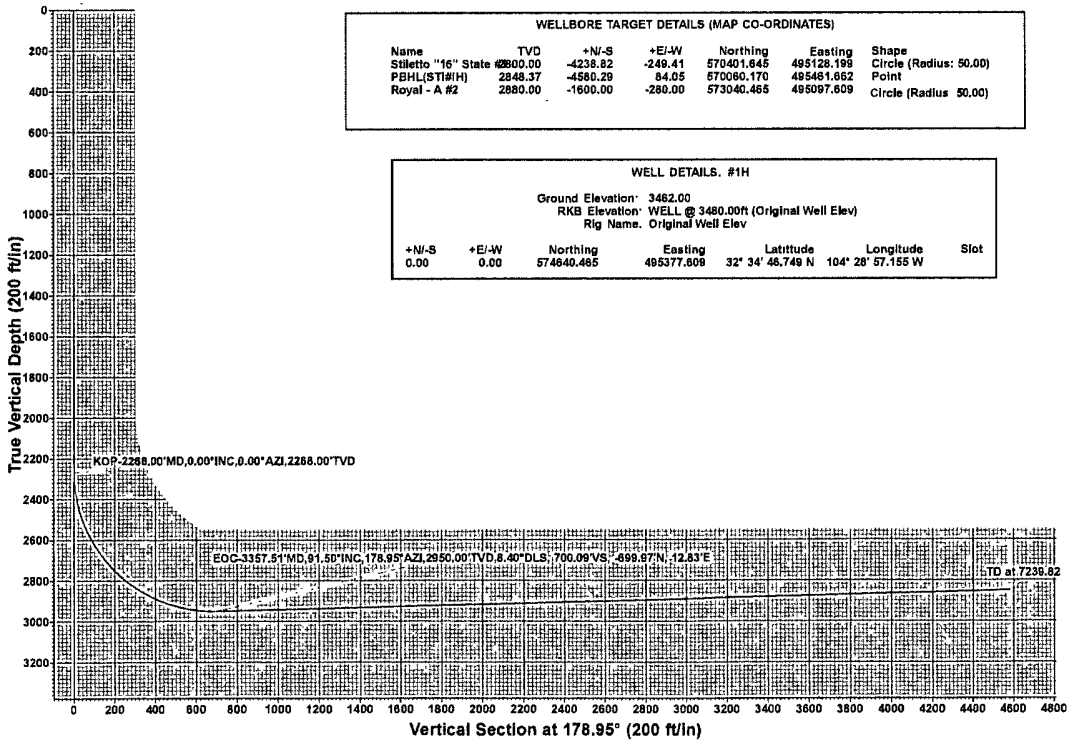
WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Stiletto "16" State #1	2800.00	-4238.82	-249.41	570401.645	495128.199	Circle (Radius: 50.00)
PBHL(STI#1H)	2848.37	-4580.29	84.05	570060.170	495461.662	Point
Royal - A #2	2880.00	-1600.00	-280.00	573040.465	495097.609	Circle (Radius 50.00)

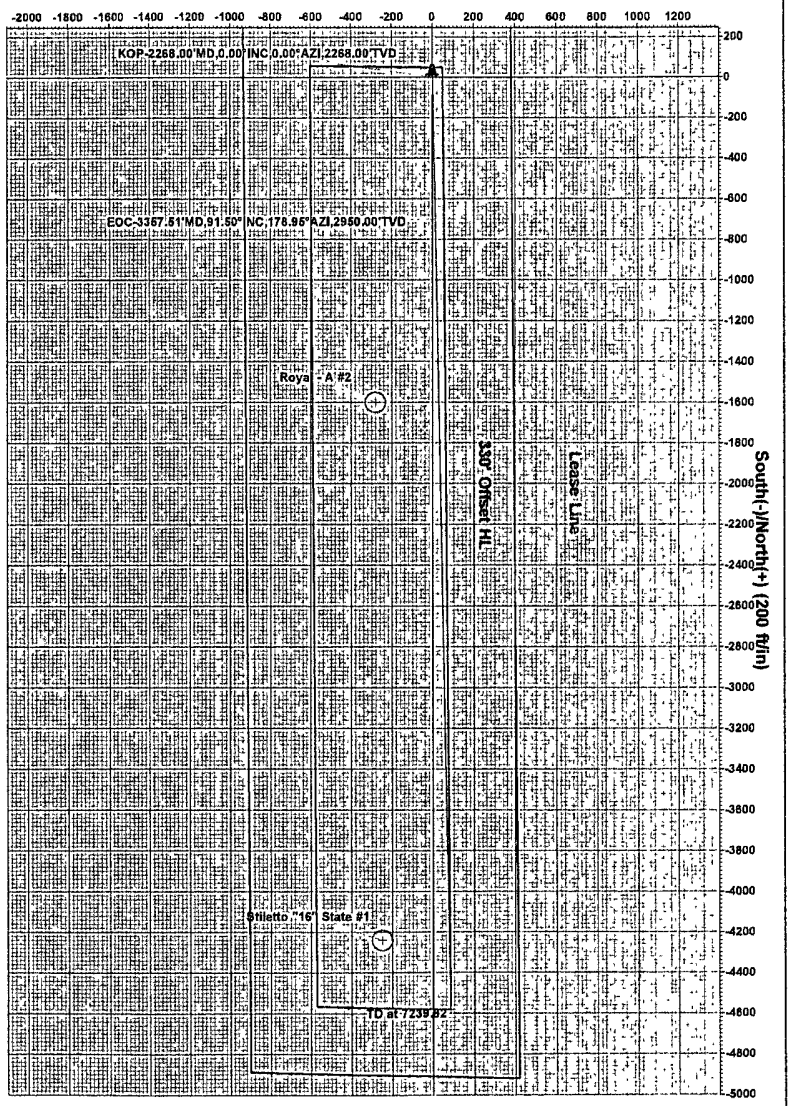
WELL DETAILS. #1H

Ground Elevation: 3462.00
RKB Elevation: WELL @ 3480.00ft (Original Well Elev)
Rig Name: Original Well Elev

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	574640.465	495377.609	32° 34' 46.749 N	104° 28' 57.155 W	



West(-)/East(+) (200 ft/in)



Plan Plan #1 (#1H/OH)
Created By: Nate Bingham Date: 15:01, March 18 2010
Checked: _____ Date: _____

Echo Production Company

Eddy County
Stiletto "16" State
#1H
OH

Plan: Plan #1

Pathfinder X & Y Planning Report

18 March, 2010

PATHFINDER

Company:	Echo Production Company	**Local Co-ordinate Reference:**	Well #1H
Project:	Eddy County	**TVD Reference:**	WELL @ 3480.00ft (Original Well Elev)
Site:	Stiletto "16" State	**MD Reference:**	WELL @ 3480.00ft (Original Well Elev)
Well:	#1H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	Midland Database

Project Eddy County

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Stiletto "16" State

Site Position:		**Northing:**	574,640.465 ft	**Latitude:**	32° 34' 46.749 N
From:	Map	**Easting:**	495,377.609 ft	**Longitude:**	104° 28' 57.155 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	"	**Grid Convergence:**	-0.08 °

Well #1H

Well Position	**+N/-S**	0.00 ft	**Northing:**	574,640.465 ft	**Latitude:**	32° 34' 46.749 N
	+E/-W	0.00 ft	**Easting:**	495,377.609 ft	**Longitude:**	104° 28' 57.155 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	3,462.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	03/18/2010	8.16	60.40	48,883

Design Plan #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	178.95

Survey Tool Program **Date** 03/18/2010

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	7,239.82	Plan #1 (OH)		

Company:	Echo Production Company	**Local Co-ordinate Reference:**	Well #1H
Project:	Eddy County	**TVD Reference:**	WELL @ 3480.00ft (Original Well Elev)
Site:	Stiletto "16" State	**MD Reference:**	WELL @ 3480.00ft (Original Well Elev)
Well:	#1H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
0.00	0.00	0.00	0.00	-3,480.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
100.00	0.00	0.00	100.00	-3,380.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
200.00	0.00	0.00	200.00	-3,280.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
300.00	0.00	0.00	300.00	-3,180.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
400.00	0.00	0.00	400.00	-3,080.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
500.00	0.00	0.00	500.00	-2,980.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
600.00	0.00	0.00	600.00	-2,880.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
700.00	0.00	0.00	700.00	-2,780.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
800.00	0.00	0.00	800.00	-2,680.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
900.00	0.00	0.00	900.00	-2,580.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
1,000.00	0.00	0.00	1,000.00	-2,480.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
1,100.00	0.00	0.00	1,100.00	-2,380.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
1,200.00	0.00	0.00	1,200.00	-2,280.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
1,300.00	0.00	0.00	1,300.00	-2,180.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
1,400.00	0.00	0.00	1,400.00	-2,080.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
1,500.00	0.00	0.00	1,500.00	-1,980.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
1,600.00	0.00	0.00	1,600.00	-1,880.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
1,700.00	0.00	0.00	1,700.00	-1,780.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
1,800.00	0.00	0.00	1,800.00	-1,680.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
1,900.00	0.00	0.00	1,900.00	-1,580.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
2,000.00	0.00	0.00	2,000.00	-1,480.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
2,100.00	0.00	0.00	2,100.00	-1,380.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
2,200.00	0.00	0.00	2,200.00	-1,280.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
2,268.00	0.00	0.00	2,268.00	-1,212.00	0.00	0.00	0.00	0.00	574,640.47	495,377.61
KOP-2268.00'MD,0.00°INC,0.00°AZI,2268.00'TVD										
2,300.00	2.69	178.95	2,299.99	-1,180.01	-0.75	0.01	0.75	8.40	574,639.71	495,377.62
2,350.00	6.89	178.95	2,349.80	-1,130.20	-4.92	0.09	4.92	8.40	574,635.54	495,377.70

Company:	Echo Production Company	**Local Co-ordinate Reference:**	Well #1H
Project:	Eddy County	**TVD Reference:**	WELL @ 3480.00ft (Original Well Elev)
Site:	Stiletto "16" State	**MD Reference:**	WELL @ 3480.00ft (Original Well Elev)
Well:	#1H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
2,400.00	11.09	178.95	2,399.18	-1,080.82	-12.73	0.23	12.73	8.40	574,627.74	495,377.84
2,450.00	15.28	178.95	2,447.85	-1,032.15	-24.13	0.44	24.13	8.40	574,616.34	495,378.05
2,500.00	19.48	178.95	2,495.55	-984.45	-39.06	0.72	39.07	8.40	574,601.40	495,378.32
2,550.00	23.68	178.95	2,542.04	-937.96	-57.45	1.05	57.46	8.40	574,583.02	495,378.66
2,600.00	27.88	178.95	2,587.05	-892.95	-79.19	1.45	79.20	8.40	574,561.28	495,379.06
2,650.00	32.08	178.95	2,630.35	-849.65	-104.16	1.91	104.18	8.40	574,536.30	495,379.52
2,700.00	36.28	178.95	2,671.70	-808.30	-132.24	2.42	132.26	8.40	574,508.22	495,380.03
2,750.00	40.48	178.95	2,710.89	-769.11	-163.27	2.99	163.30	8.40	574,477.19	495,380.60
2,800.00	44.68	178.95	2,747.70	-732.30	-197.09	3.61	197.12	8.40	574,443.37	495,381.22
2,850.00	48.88	178.95	2,781.93	-698.07	-233.51	4.28	233.55	8.40	574,406.95	495,381.89
2,900.00	53.08	178.95	2,813.41	-666.59	-272.34	4.99	272.39	8.40	574,368.12	495,382.60
2,950.00	57.28	178.95	2,841.95	-638.05	-313.37	5.74	313.42	8.40	574,327.09	495,383.35
3,000.00	61.48	178.95	2,867.42	-612.58	-356.38	6.53	356.44	8.40	574,284.08	495,384.14
3,050.00	65.67	178.95	2,889.66	-590.34	-401.14	7.35	401.21	8.40	574,239.33	495,384.96
3,100.00	69.87	178.95	2,908.57	-571.43	-447.41	8.20	447.48	8.40	574,193.06	495,385.81
3,150.00	74.07	178.95	2,924.04	-555.96	-494.93	9.07	495.02	8.40	574,145.53	495,386.68
3,200.00	78.27	178.95	2,935.99	-544.01	-543.47	9.96	543.56	8.40	574,097.00	495,387.57
3,250.00	82.47	178.95	2,944.35	-535.65	-592.74	10.86	592.84	8.40	574,047.72	495,388.47
3,300.00	86.67	178.95	2,949.08	-530.92	-642.50	11.78	642.61	8.40	573,997.97	495,389.38
3,350.00	90.87	178.95	2,950.16	-529.84	-692.47	12.69	692.58	8.40	573,948.00	495,390.30
3,357.51	91.50	178.95	2,950.00	-530.00	-699.98	12.83	700.09	8.40	573,940.49	495,390.44
EOC-3357.51'MD,91.50°INC,178.95°AZI,2950.00'TVD,8.40°DLS, 700.09'VS, -699.97'N, 12.83'E										
3,400.00	91.50	178.95	2,948.89	-531.11	-742.44	13.61	742.57	0.00	573,898.02	495,391.22
3,500.00	91.50	178.95	2,946.27	-533.73	-842.39	15.44	842.53	0.00	573,798.07	495,393.05
3,600.00	91.50	178.95	2,943.65	-536.35	-942.34	17.27	942.50	0.00	573,698.12	495,394.88
3,700.00	91.50	178.95	2,941.03	-538.97	-1,042.29	19.10	1,042.46	0.00	573,598.18	495,396.71
3,800.00	91.50	178.95	2,938.42	-541.58	-1,142.24	20.93	1,142.43	0.00	573,498.23	495,398.54

Company:	Echo Production Company	**Local Co-ordinate Reference:**	Well #1H
Project:	Eddy County	**TVD Reference:**	WELL @ 3480.00ft (Original Well Elev)
Site:	Stiletto "16" State	**MD Reference:**	WELL @ 3480.00ft (Original Well Elev)
Well:	#1H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
3,900.00	91.50	178.95	2,935.80	-544.20	-1,242.19	22.77	1,242.40	0.00	573,398.28	495,400.38
4,000.00	91.50	178.95	2,933.18	-546.82	-1,342.14	24.60	1,342.36	0.00	573,298.33	495,402.21
4,100.00	91.50	178.95	2,930.56	-549.44	-1,442.08	26.43	1,442.33	0.00	573,198.38	495,404.04
4,200.00	91.50	178.95	2,927.95	-552.05	-1,542.03	28.26	1,542.29	0.00	573,098.43	495,405.87
4,253.54	91.50	178.95	2,926.54	-553.46	-1,595.55	29.24	1,595.82	0.00	573,044.91	495,406.85
Royal - A #2										
4,300.00	91.50	178.95	2,925.33	-554.67	-1,641.98	30.09	1,642.26	0.00	572,998.48	495,407.70
4,400.00	91.50	178.95	2,922.71	-557.29	-1,741.93	31.93	1,742.22	0.00	572,898.53	495,409.54
4,500.00	91.50	178.95	2,920.09	-559.91	-1,841.88	33.76	1,842.19	0.00	572,798.58	495,411.37
4,600.00	91.50	178.95	2,917.48	-562.52	-1,941.83	35.59	1,942.16	0.00	572,698.64	495,413.20
4,700.00	91.50	178.95	2,914.86	-565.14	-2,041.78	37.42	2,042.12	0.00	572,598.69	495,415.03
4,800.00	91.50	178.95	2,912.24	-567.76	-2,141.73	39.25	2,142.09	0.00	572,498.74	495,416.86
4,900.00	91.50	178.95	2,909.62	-570.38	-2,241.68	41.09	2,242.05	0.00	572,398.79	495,418.69
5,000.00	91.50	178.95	2,907.00	-573.00	-2,341.63	42.92	2,342.02	0.00	572,298.84	495,420.53
5,100.00	91.50	178.95	2,904.39	-575.61	-2,441.57	44.75	2,441.98	0.00	572,198.89	495,422.36
5,200.00	91.50	178.95	2,901.77	-578.23	-2,541.52	46.58	2,541.95	0.00	572,098.94	495,424.19
5,300.00	91.50	178.95	2,899.15	-580.85	-2,641.47	48.41	2,641.92	0.00	571,998.99	495,426.02
5,400.00	91.50	178.95	2,896.53	-583.47	-2,741.42	50.24	2,741.88	0.00	571,899.04	495,427.85
5,500.00	91.50	178.95	2,893.92	-586.08	-2,841.37	52.08	2,841.85	0.00	571,799.09	495,429.69
5,600.00	91.50	178.95	2,891.30	-588.70	-2,941.32	53.91	2,941.81	0.00	571,699.15	495,431.52
5,700.00	91.50	178.95	2,888.68	-591.32	-3,041.27	55.74	3,041.78	0.00	571,599.20	495,433.35
5,800.00	91.50	178.95	2,886.06	-593.94	-3,141.22	57.57	3,141.74	0.00	571,499.25	495,435.18
5,900.00	91.50	178.95	2,883.45	-596.55	-3,241.17	59.40	3,241.71	0.00	571,399.30	495,437.01
6,000.00	91.50	178.95	2,880.83	-599.17	-3,341.11	61.24	3,341.68	0.00	571,299.35	495,438.84
6,100.00	91.50	178.95	2,878.21	-601.79	-3,441.06	63.07	3,441.64	0.00	571,199.40	495,440.68
6,200.00	91.50	178.95	2,875.59	-604.41	-3,541.01	64.90	3,541.61	0.00	571,099.45	495,442.51
6,300.00	91.50	178.95	2,872.97	-607.03	-3,640.96	66.73	3,641.57	0.00	570,999.50	495,444.34

Company:	Echo Production Company	**Local Co-ordinate Reference:**	Well #1H
Project:	Eddy County	**TVD Reference:**	WELL @ 3480.00ft (Original Well Elev)
Site:	Stiletto "16" State	**MD Reference:**	WELL @ 3480.00ft (Original Well Elev)
Well:	#1H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
6,400.00	91.50	178.95	2,870.36	-609.64	-3,740.91	68.56	3,741.54	0.00	570,899.55	495,446.17
6,500.00	91.50	178.95	2,867.74	-612.26	-3,840.86	70.40	3,841.50	0.00	570,799.61	495,448.00
6,600.00	91.50	178.95	2,865.12	-614.88	-3,940.81	72.23	3,941.47	0.00	570,699.66	495,449.84
6,700.00	91.50	178.95	2,862.50	-617.50	-4,040.76	74.06	4,041.44	0.00	570,599.71	495,451.67
6,800.00	91.50	178.95	2,859.89	-620.11	-4,140.71	75.89	4,141.40	0.00	570,499.76	495,453.50
6,893.67	91.50	178.95	2,857.43	-622.57	-4,234.33	77.61	4,235.04	0.00	570,406.13	495,455.22
Stiletto "16" State #1										
6,900.00	91.50	178.95	2,857.27	-622.73	-4,240.66	77.72	4,241.37	0.00	570,399.81	495,455.33
7,000.00	91.50	178.95	2,854.65	-625.35	-4,340.60	79.55	4,341.33	0.00	570,299.86	495,457.16
7,100.00	91.50	178.95	2,852.03	-627.97	-4,440.55	81.39	4,441.30	0.00	570,199.91	495,459.00
7,200.00	91.50	178.95	2,849.42	-630.58	-4,540.50	83.22	4,541.26	0.00	570,099.96	495,460.83
7,239.82	91.50	178.95	2,848.37	-631.63	-4,580.30	83.95	4,581.07	0.00	570,060.17	495,461.56
TD at 7239.82 - PBHL(STI#!H)										

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Stiletto "16" State #1	0.00	0.00	2,800.00	-4,238.82	-249.41	570,401.645	495,128.199	32° 34' 4.800 N	104° 29' 0.000 W
- plan misses target center by 332.05ft at 6893.67ft MD (2857.43 TVD, -4234.33 N, 77.61 E)									
- Circle (radius 50.00)									
Royal - A #2	0.00	0.00	2,880.00	-1,600.00	-280.00	573,040.465	495,097.609	32° 34' 30.912 N	104° 29' 0.401 W
- plan misses target center by 312.76ft at 4253.54ft MD (2926.54 TVD, -1595.55 N, 29.24 E)									
- Circle (radius 50.00)									
PBHL(STI#!H)	0.00	360.00	2,848.37	-4,580.29	84.05	570,060.170	495,461.662	32° 34' 1.426 N	104° 28' 56.098 W
- plan hits target center									
- Point									

Company:	Echo Production Company	**Local Co-ordinate Reference:**	Well #1H
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Site:	Stiletto "16" State	**MD Reference:**	WELL @ 3480.00ft (Original Well Elev)
Well:	#1H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	Midland Database

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,268.00	2,268.00	0.00	0.00	KOP-2268.00'MD,0.00°INC,0.00°AZI,2268.00'TVD
3,357.51	2,950.00	-699.98	12.83	EOC-3357.51'MD,91.50°INC,178.95°AZI,2950.00'TVD,8.40°DLS, 700.(
7,239.82	2,848.37	-4,580.30	83.95	TD at 7239.82

Checked By: _____ Approved By: _____ Date: _____

ECHO PRODUCTION, INC.

Hydrogen sulfide contingency plan
For drilling/workover/facility.

This well and it's anticipated facility are not expected to have Hydrogen Sulfide releases there is no known presence of Hydrogen Sulfide in this area. There are no dwellings in the close proximity of this location. However if an indication of any Hydrogen Sulfide should be encountered a plan is in place to monitor the situation. ECHO PRODUCTION, INC. will have a company representative available to the rig personnel throughout the drilling and the completion operation. If Hydrogen Sulfide should be detected monitoring equipment will be available for monitoring and/or testing..

TABLE OF CONTENS

General H2S Emergency Actions:

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 unsuspection 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 coordinate the necessary duties to bring the situation under control, and if necessary, the notification of the emergency response agencies and nearby 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.
7. Call the NMOCD

HYDROGEN SULFIDE CONTINGENCY PLAN
FOR DRILLING/WORKOVER/FACILITY

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 the necessary steps to protect the workers and the public.
EMERGENCY CALL LIST: (Start and continue until ONE of these people has been contacted)

	OFFICE	MOBILE	HOME
Gene Byars		940-300-3934	Drilling Supervisor
Ken Seligman	940-549-3292	940-550-4390	
Tom Golden	940-549-3292	940-550-4169	

State Police	Eddy County		575 -748-9718
State Police	Lea County		575-392-5588
Sheriff	Eddy County		575-746-2701
Sheriff	Lea County		
Emergency Medical Service (Ambulance)	Eddy County		911 or 575-746-2701
	Lea County	Eunice	911 or 575-394-3258
Emergency Response	Eddy County SERC		575-476-9620
	Lea County		
Artesia Police Dept			575-746-5001
Artesia Fire Dept			575-746-5001
Carlsbad Police Dept			575-885-2111
Carlsbad Fire Dept			575-885-3125

HYDROGEN SULFIDE CONTINGENCY PLAN
FOR DRILLING/WORKOVER/FACILITY

EMERGENCY CALL LIST (CONT.)

Loco Hills Police Dept		575-677-2349
Jal Police Dept		575-395-2501
Jal Fire Dept		575-395-2221
Jal Ambulance		575-395-2221
Eunice Police Dept		575-394-0112
Eunice Fire Dept		575-394-3258
Eunice Ambulance		575-394-3258
Hobbs Police Dept		575-397-3365
Hobbs Fire Dept		575-397-9308
NMOCD	District 1 (Lea, Roosevelt, Curry)	575-393-6161
	District 2 (Eddy, Chavez)	575-748-1283
Lea County Information		575-393-8203
Callaway Safety	Eddy/Lea Counties	575-392-2973
BJ Services	Artesia	575-746-3140
	Hobbs	575-392-5556
Halliburton	Artesia	1-800-523-2482
	Hobbs	1-800-523-2482
Wild Well Control	Midland	432-550-6202
	Mobile	432-553-1166

PROTECTION OF THE GENERAL PUBLIC (ROE):

- 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 ¼ mile in New Mexico 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

CALCULATIONS FOR THE 100 PPM (ROE) "Pasquill-Gifford equation"

X = [(1.589) (mole fraction) (Q- volume in std cu ft)] to the power of (0.6258)

CALCULATION FOR THE 500 PPM ROE:

X = [(.4546) (mole fraction) (Q- volume in std cu ft)] to the power of (0.6258)

Example:

If a well/facility has been determined to have 150 / 500 ppm H2S in the gas mixture and the well/facility is producing at a gas rate of 100 MCFPD then:

150 ppm X= [(1.589) (.00015) (100,000 cfd)] to the power of (.6258)
X= 7 ft

500 ppm X= [(.4546) (.0005) (100,000 cfd)] to the power of (.6258)
X = 3.3 ft.

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

PUBLIC EVACUATION PLAN:

- 1. Notification of the emergency response agencies of the hazardous condition and implement evacuation procedures.
- A trained person in H2S safety, shall monitor with detection equipment the H2S concentration, wind and area 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 1**

groups A,B,C &D, Division 1, hazardous locations. All monitor will have a minimum capability of measuring H2S , oxygen, and flammable values).

- 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.
- The company supervising personnel shall stay in communication 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:

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

INSTRUCTION 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.

- 2. One of the people will be 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 25 mm flare gun shall be used, with a ± 500 ft. 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 reflection the possible conditions at the site.
  - A colored condition flag will be on display, reflecting the condition at the site at the time.

- 3. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.

- 4. Wind Socks: Two wind socks will be placed in strategic locations, visible from all angles.

- 5. H2S detectors and alarms: The stationary detector with thre sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days ora as needed. The 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 ft 5/8 inch 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 a. y teim 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 locaton.
- Facial hair and standard eyeglasses are not allowed with SCBA.
- Contact lenses are never allowed with SCBA.
- Air quality shall be 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 AND 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. Up wind an uphill from source or 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 personnel on location shall be trained in CPR and First Aid.

HYDROGEN SULFIDE 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%. By volume hydrogen sulfide is almost as toxic as hydrogen cyanide and is 5-6 times more toxic than carbon monoxide.

Various Gases

COMMON NAME	CHEMICAL ABBREV.	SPECIFIC GRVTY.	THRESHOLD LIMITS	HAZARDOUS LIMITS	LETHAL CONCENTRATIONS
Hydrogen Sulfide	H2S	1.19	10ppm 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

Threshold limit: Concentrations at which it is believed that all workers may be repeatedly exposed, day after day without adverse effects.

Hazardous Limit: Concentrations that may cause death

Lethal Concentrations: Concentrations that will cause death with short term exposure

Threshold limit - 10 ppm: NIOSH guide to chemical hazards

PHYSICAL EFFECTS OF HYDROGEN SULFIDE:

CONCENTRATION		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 the eyes and throat.
.02%	200 ppm	Kills the sense of smell rapidly. Severly irritates the eyes and throat. Severe flu like symptoms after 4 or more ours. May cause lung damage and or death.
.06%	600 ppm	Loss of consciousness quickly, death will result if not rescued promptly.