



EOG Resources, Inc.

**Eddy County
Sand Tank 1 Fed Com
#2H
OH**

Survey: MWD #1

Pathfinder X & Y Survey Report

05 March, 2010

PATHFINDER



Pathfinder
Pathfinder X & Y Survey Report



Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	WELL @ 3551.70ft (McVay #4 19'KB Correction)
Site:	Sand Tank 1 Fed Com	MD Reference:	WELL @ 3551.70ft (McVay #4 19'KB Correction)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

Project:	Eddy County		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	Sand Tank 1 Fed Com				
Site Position:		Northing:	645,298.300 ft	Latitude:	32° 46' 25.050 N
From:	Map	Easting:	596,324.000 ft	Longitude:	104° 1' 11.807 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	0 17 °

Well:	#2H					
Well Position	+N/-S	0.00 ft	Northing:	645,298.300 ft	Latitude:	32° 46' 25.050 N
	+E/-W	0.00 ft	Easting:	596,324.000 ft	Longitude:	104° 1' 11.807 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,532.70 ft

Wellbore:	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF200510	07/07/2009	(°)	(°)	(nT)
			8.05	60.68	49,118

Design:	OH				
Audit Notes:					
Version:	1 0	Phase:	ACTUAL	Tie On Depth:	0 00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	274.10	



Pathfinder
Pathfinder X & Y Survey Report



Company: EOG Resources, Inc.
Project: Eddy County
Site: Sand Tank 1 Fed Com
Well: #2H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #2H
TVD Reference: WELL @ 3551.70ft (McVay #4 19'KB Correction)
MD Reference: WELL @ 3551.70ft (McVay #4 19'KB Correction)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Survey Program		Date 03/05/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
100.00	6,810.00	GYRO (OH)	Gyro	Gyro
6,868.00	7,181.00	Pilot Hole (OH)	MWD	MWD - Standard
7,217.00	12,113.00	MWD #1 (OH)	MWD	MWD - Standard

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
7,181.00	4.48	351.48	7,176.89	3,625.19	77.40	-35.51	40.95	0.00	645,375.70	596,288.49	
7,217.00	4.22	356.14	7,212.78	3,661.08	80.12	-35.81	41.45	1.22	645,378.42	596,288.19	
7,249.00	3.96	349.99	7,244.70	3,693.00	82.38	-36.08	41.88	1.59	645,380.68	596,287.92	
7,280.00	5.45	326.43	7,275.60	3,723.90	84.66	-37.08	43.04	7.78	645,382.96	596,286.92	
7,310.00	10.11	306.92	7,305.32	3,753.62	87.43	-39.98	46.12	17.64	645,385.73	596,284.02	
7,342.00	14.77	298.48	7,336.56	3,784.86	91.07	-45.81	52.20	15.59	645,389.37	596,278.19	
7,372.00	17.41	296.11	7,365.39	3,813.69	94.87	-53.20	59.85	9.07	645,393.17	596,270.80	
7,405.00	19.79	295.93	7,396.66	3,844.96	99.48	-62.66	69.61	7.21	645,397.78	596,261.34	
7,437.00	23.21	296.11	7,426.43	3,874.73	104.63	-73.20	80.49	10.69	645,402.93	596,250.80	
7,468.00	28.40	294.79	7,454.33	3,902.63	110.41	-85.38	93.06	16.84	645,408.71	596,238.62	
7,499.00	33.77	292.24	7,480.87	3,929.17	116.77	-100.06	108.16	17.83	645,415.07	596,223.94	
7,530.00	38.87	289.43	7,505.84	3,954.14	123.27	-117.22	125.74	17.30	645,421.57	596,206.78	
7,561.00	43.00	285.12	7,529.26	3,977.56	129.27	-136.61	145.51	16.13	645,427.57	596,187.39	
7,592.00	47.40	280.38	7,551.10	3,999.40	134.08	-158.06	167.24	17.86	645,432.38	596,165.94	
7,623.00	52.06	276.51	7,571.14	4,019.44	137.53	-181.45	190.81	17.79	645,435.83	596,142.55	
7,654.00	57.42	275.81	7,589.03	4,037.33	140.24	-206.60	216.10	17.39	645,438.54	596,117.40	
7,685.00	62.70	275.11	7,604.50	4,052.80	142.79	-233.34	242.95	17.14	645,441.09	596,090.66	
7,712.00	67.53	274.05	7,615.85	4,064.15	144.74	-257.74	267.43	18.24	645,443.04	596,066.26	
7,745.00	73.25	272.82	7,626.93	4,075.23	146.59	-288.76	298.50	17.68	645,444.89	596,035.24	
7,761.54	75.36	272.21	7,631.40	4,079.70	147.29	-304.67	314.42	13.26	645,445.59	596,019.33	
Top of F Sand(As Drilled) - 7761.54'MD,75.36'INC,272.21'AZI,7631.40'TVD											



Pathfinder

Pathfinder X & Y Survey Report



Company: EOG Resources, Inc.
 Project: Eddy County
 Site: Sand Tank 1 Fed Com
 Well: #2H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #2H
 TVD Reference: WELL @ 3551.70ft (McVay #4 19'KB Correction)
 MD Reference: WELL @ 3551.70ft (McVay #4 19'KB Correction)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Midland Database

Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (%/100ft)	Northing (ft)	Easting (ft)
7,776.00	77.21	271.68	7,634.83	4,083.13	147.77	-318.71	328.46	13.26	645,446.07	596,005.29
7,807.00	79.67	271.59	7,641.04	4,089.34	148.63	-349.06	358.80	7.94	645,446.93	595,974.94
7,839.00	82.04	271.68	7,646.12	4,094.42	149.54	-380.64	390.36	7.41	645,447.84	595,943.36
7,870.00	84.86	271.59	7,649.66	4,097.96	150.41	-411.42	421.12	9.10	645,448.71	595,912.58
7,932.00	90.66	271.06	7,652.08	4,100.38	151.85	-473.33	482.98	9.39	645,450.15	595,850.67
7,995.00	90.40	270.89	7,651.50	4,099.80	152.92	-536.32	545.88	0.49	645,451.22	595,787.68
8,088.00	89.87	270.89	7,651.28	4,099.58	154.36	-629.31	638.73	0.57	645,452.66	595,694.69
8,181.00	90.13	270.89	7,651.28	4,099.58	155.81	-722.30	731.59	0.28	645,454.11	595,601.70
8,274.00	89.69	270.98	7,651.43	4,099.73	157.32	-815.28	824.45	0.48	645,455.62	595,508.72
8,369.00	90.04	271.85	7,651.65	4,099.95	159.67	-910.25	919.34	0.99	645,457.97	595,413.75
8,462.00	89.52	271.85	7,652.01	4,100.31	162.67	-1,003.20	1,012.27	0.56	645,460.97	595,320.80
8,555.00	88.99	271.77	7,653.22	4,101.52	165.61	-1,096.15	1,105.18	0.58	645,463.91	595,227.85
8,650.00	90.22	272.29	7,653.87	4,102.17	168.97	-1,191.09	1,200.12	1.41	645,467.27	595,132.91
8,743.00	91.54	273.00	7,652.44	4,100.74	173.27	-1,283.97	1,293.07	1.61	645,471.57	595,040.03
8,836.00	92.51	274.49	7,649.16	4,097.46	179.34	-1,376.71	1,386.01	1.91	645,477.64	594,947.29
8,929.00	92.07	274.23	7,645.44	4,093.74	186.40	-1,469.37	1,478.94	0.55	645,484.70	594,854.63
8,991.00	90.31	273.44	7,644.15	4,092.45	190.55	-1,531.21	1,540.92	3.11	645,488.85	594,792.79
9,054.00	89.25	272.82	7,644.40	4,092.70	193.99	-1,594.12	1,603.91	1.95	645,492.29	594,729.88
9,116.00	88.99	272.56	7,645.35	4,093.65	196.90	-1,656.04	1,665.88	0.59	645,495.20	594,667.96
9,178.00	88.90	272.56	7,646.49	4,094.79	199.66	-1,717.97	1,727.85	0.15	645,497.96	594,606.03
9,240.00	88.64	272.38	7,647.82	4,096.12	202.34	-1,779.90	1,789.81	0.51	645,500.64	594,544.10
9,334.00	88.72	271.94	7,649.99	4,098.29	205.88	-1,873.81	1,883.73	0.48	645,504.18	594,450.19
9,426.00	90.57	272.82	7,650.56	4,098.86	209.70	-1,965.72	1,975.68	2.23	645,508.00	594,358.28
9,520.00	91.19	273.88	7,649.11	4,097.41	215.19	-2,059.55	2,069.66	1.31	645,513.49	594,264.45
9,614.00	91.10	273.96	7,647.23	4,095.53	221.61	-2,153.31	2,163.64	0.13	645,519.91	594,170.69
9,707.00	92.07	273.96	7,644.66	4,092.96	228.03	-2,246.05	2,256.61	1.04	645,526.33	594,077.95
9,739.00	92.77	274.14	7,643.31	4,091.61	230.29	-2,277.94	2,288.58	2.26	645,528.59	594,046.06



Pathfinder
Pathfinder X & Y Survey Report



Company: EOG Resources, Inc.
Project: Eddy County
Site: Sand Tank 1 Fed Com
Well: #2H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #2H
TVD Reference: WELL @ 3551.70ft (McVay #4 19'KB Correction)
MD Reference: WELL @ 3551.70ft (McVay #4 19'KB Correction)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
9,770.00	94.09	273.88	7,641.46	4,089.76	232.46	-2,308.81	2,319.52	4.34	645,530.76	594,015.19	
9,832.00	93.39	273.79	7,637.41	4,085.71	236.59	-2,370.54	2,381.39	1.14	645,534.89	593,953.46	
9,894.00	91.89	273.35	7,634.56	4,082.86	240.45	-2,432.35	2,443.32	2.52	645,538.75	593,891.65	
9,926.00	92.15	272.82	7,633.43	4,081.73	242.17	-2,464.28	2,475.29	1.84	645,540.47	593,859.72	
9,956.00	91.36	272.64	7,632.51	4,080.81	243.60	-2,494.24	2,505.27	2.70	645,541.90	593,829.76	
9,987.00	92.95	272.64	7,631.34	4,079.64	245.03	-2,525.18	2,536.24	5.13	645,543.33	593,798.82	
10,019.00	94.00	272.56	7,629.40	4,077.70	246.48	-2,557.09	2,568.17	3.29	645,544.78	593,766.91	
10,060.00	94.97	273.26	7,626.20	4,074.50	248.55	-2,597.91	2,609.03	2.91	645,546.85	593,726.09	
10,082.00	95.06	273.26	7,624.27	4,072.57	249.80	-2,619.79	2,630.94	0.41	645,548.10	593,704.21	
10,113.00	96.11	273.17	7,621.26	4,069.56	251.53	-2,650.59	2,661.79	3.40	645,549.83	593,673.41	
10,145.00	97.25	273.61	7,617.53	4,065.83	253.41	-2,682.32	2,693.57	3.82	645,551.71	593,641.68	
10,176.00	97.96	273.70	7,613.43	4,061.73	255.37	-2,712.98	2,724.30	2.31	645,553.67	593,611.02	
10,206.00	97.61	273.61	7,609.37	4,057.67	257.26	-2,742.65	2,754.02	1.20	645,555.56	593,581.35	
10,236.00	95.23	274.14	7,606.01	4,054.31	259.27	-2,772.39	2,783.83	8.13	645,557.57	593,551.61	
10,267.00	94.35	274.93	7,603.43	4,051.73	261.72	-2,803.18	2,814.72	3.81	645,560.02	593,520.82	
10,299.00	94.26	274.93	7,601.02	4,049.32	264.46	-2,834.97	2,846.63	0.28	645,562.76	593,489.03	
10,330.00	94.18	274.84	7,598.74	4,047.04	267.09	-2,865.78	2,877.54	0.39	645,565.39	593,458.22	
10,393.00	94.26	274.58	7,594.11	4,042.41	272.25	-2,928.39	2,940.37	0.43	645,570.55	593,395.61	
10,455.00	94.09	274.23	7,589.59	4,037.89	277.00	-2,990.05	3,002.20	0.63	645,575.30	593,333.95	
10,517.00	93.65	274.14	7,585.41	4,033.71	281.52	-3,051.74	3,064.06	0.72	645,579.82	593,272.26	
10,579.00	93.39	273.79	7,581.60	4,029.90	285.79	-3,113.48	3,125.94	0.70	645,584.09	593,210.52	
10,641.00	93.12	273.70	7,578.08	4,026.38	289.84	-3,175.24	3,187.84	0.46	645,588.14	593,148.76	
10,704.00	93.12	273.79	7,574.65	4,022.95	293.95	-3,238.02	3,250.75	0.14	645,592.25	593,085.98	
10,766.00	92.68	273.70	7,571.52	4,019.82	297.99	-3,299.80	3,312.66	0.72	645,596.29	593,024.20	
10,860.00	94.09	273.96	7,565.97	4,014.27	304.26	-3,393.43	3,406.50	1.53	645,602.56	592,930.57	
10,922.00	94.44	273.96	7,561.35	4,009.65	308.53	-3,455.11	3,468.33	0.56	645,606.83	592,868.89	
10,985.00	94.53	273.96	7,556.43	4,004.73	312.87	-3,517.77	3,531.13	0.14	645,611.17	592,806.23	



Pathfinder

Pathfinder X & Y Survey Report



Company: EOG Resources, Inc.
 Project: Eddy County
 Site: Sand Tank 1 Fed Com
 Well: #2H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #2H
 TVD Reference: WELL @ 3551.70ft (McVay #4 19'KB Correction)
 MD Reference: WELL @ 3551.70ft (McVay #4 19'KB Correction)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Midland Database

Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
11,047.00	93.39	273.79	7,552.15	4,000.45	317.05	-3,579.48	3,592.98	1.86	645,615.35	592,744.52
11,109.00	92.24	274.05	7,549.10	3,997.40	321.28	-3,641.25	3,654.91	1.90	645,619.58	592,682.75
11,171.00	92.24	274.31	7,546.68	3,994.98	325.79	-3,703.04	3,716.86	0.42	645,624.09	592,620.96
11,234.00	93.39	273.26	7,543.58	3,991.88	329.95	-3,765.83	3,779.78	2.47	645,628.25	592,558.17
11,296.00	93.30	272.82	7,539.97	3,988.27	333.23	-3,827.63	3,841.66	0.72	645,631.53	592,496.37
11,359.00	93.39	272.56	7,536.29	3,984.59	336.18	-3,890.46	3,904.54	0.44	645,634.48	592,433.54
11,421.00	93.39	272.29	7,532.62	3,980.92	338.80	-3,952.29	3,966.40	0.43	645,637.10	592,371.71
11,483.00	92.59	272.12	7,529.39	3,977.69	341.18	-4,014.16	4,028.28	1.32	645,639.48	592,309.84
11,576.00	92.77	272.12	7,525.04	3,973.34	344.62	-4,107.00	4,121.13	0.19	645,642.92	592,217.00
11,640.00	92.42	271.68	7,522.14	3,970.44	346.74	-4,170.90	4,185.01	0.88	645,645.04	592,153.10
11,734.00	91.19	273.08	7,519.18	3,967.48	350.64	-4,264.76	4,278.92	1.98	645,648.94	592,059.24
11,830.00	89.08	272.73	7,518.96	3,967.26	355.51	-4,360.64	4,374.89	2.23	645,653.81	591,963.36
11,894.00	88.99	272.82	7,520.03	3,968.33	358.60	-4,424.55	4,438.87	0.20	645,656.90	591,899.45
11,957.00	88.72	273.00	7,521.29	3,969.59	361.80	-4,487.46	4,501.84	0.52	645,660.10	591,836.54
12,019.00	88.90	272.64	7,522.58	3,970.88	364.85	-4,549.37	4,563.81	0.65	645,663.15	591,774.63
12,049.00	88.72	272.73	7,523.20	3,971.50	366.26	-4,579.33	4,593.80	0.67	645,664.56	591,744.67
12,113.00	88.72	272.73	7,524.63	3,972.93	369.30	-4,643.24	4,657.76	0.00	645,667.60	591,680.76



Pathfinder
Pathfinder X & Y Survey Report



Company: EOG Resources, Inc.
Project: Eddy County
Site: Sand Tank 1 Fed Com
Well: #2H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #2H
TVD Reference: WELL @ 3551.70ft (McVay #4 19'KB Correction)
MD Reference: WELL @ 3551.70ft (McVay #4 19'KB Correction)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Targets

Target Name	hit/miss-target	Dip/Angle	Dip/Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Shape		(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
PP(#2H)		0.00	0.00	7,650.00	355.60	-87.70	645,653.900	596,236.300	32° 46' 28.571 N	104° 1' 12.822 W
- survey misses target center by 250.13ft at 7623.00ft MD (7571.14 TVD, 137.53 N, -181.45 E)										
- Point										
PBHL(#2HST1)		0.00	0.00	7,512.00	336.90	-4,700.10	645,635.200	591,623.900	32° 46' 28.518 N	104° 2' 6.845 W
- survey misses target center by 66.65ft at 12113.00ft MD (7524 63 TVD, 369.30 N, -4643.24 E)										
- Point										

Survey Annotations

Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
7,761.54	7,631.40	147.29	-304.67	Top of F Sand(As Drilled) - 7761.54°MD,75.36°INC,272.21°AZI,7631 4C

Checked By: _____ Approved By: _____ Date: _____

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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 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 30-015-37212	Pool Code 916832	Pool Name Sand Tank; Bone Spring
Property Code 19656	Property Name SAND TANK 1 FED. COM	Well Number 2H
OCRID No. 7377	Operator Name EOG RESOURCES, INC.	Elevation 3532.7'

Surface Location

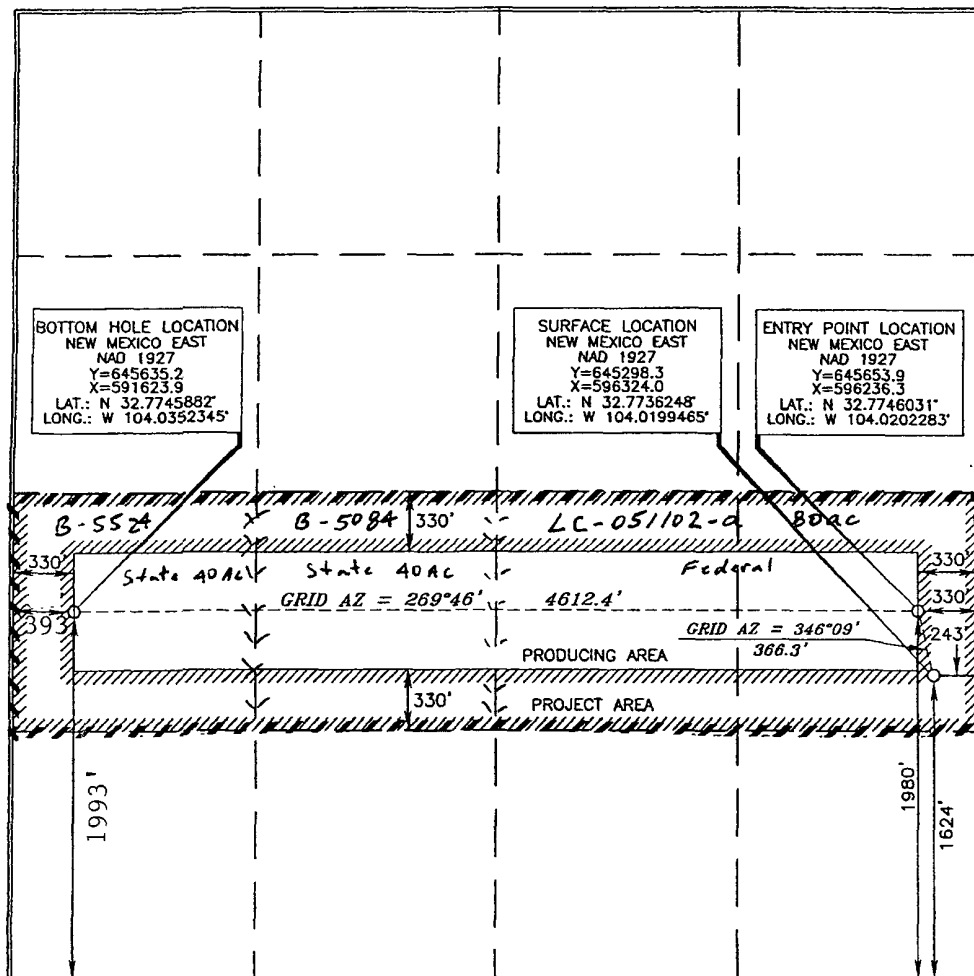
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	1	18 SOUTH	29 EAST, N.M.P.M.		1624'	SOUTH	243'	EAST	EDDY

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
L	1	18 SOUTH	29 EAST, N.M.P.M.		1993	SOUTH	393	WEST	EDDY

Dedicated Acres 160	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.

Donny G. Glanton 7/7/09
Signature Date

Donny G. Glanton
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 supervision, and that the same is true and correct to the best of my belief.

June 9, 2009
Date of Survey
Terry J. Abel
Signature and Seal of Professional Land Surveyor
Certificate Number 15079

WO# 090609WL-a (KA)