

EOG Resources

Lea County, NM (Nad27)
Red Hills West 16 State
Red Hills West 16 State 7H
Wellbore #1

Plan: Plan #1 122111

EOG Resources

21 December, 2011



PHOENIX
TECHNOLOGY SERVICES

30-025-40416

PLAN 2 8 7012

Phoenix Technology Services
EOG Resources



Company:	EOG Resources	Local Co-ordinate Reference:	Well Red Hills West 16 State 7H
Project:	Lea County, NM (Nad27)	TVD Reference:	WELL @ 3245.30usft (Original Well Elev)
Site:	Red Hills West 16 State	MD Reference:	WELL @ 3245.30usft (Original Well Elev)
Well:	Red Hills West 16 State 7H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 122111	Database:	GCR DB v5000

Project Lea County, NM (Nad27)			
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		Red Hills West 16 State			
Site Position:		Northing:	382,382.50 usft	Latitude:	32° 2' 58.675 N
From:	Map	Easting:	700,544.80 usft	Longitude:	103° 41' 9.818 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.34 °

Well		Red Hills West 16 State 7H				
Well Position	+N/-S	0.00 usft	Northing:	382,404.50 usft	Latitude:	32° 2' 58.729 N
	+E/-W	0.00 usft	Easting:	703,291.10 usft	Longitude:	103° 40' 37.909 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,215.30 usft

Wellbore		Wellbore #1			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	12/21/11	7.56	59.99	48,449

Design:	Plan #1 122111			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	176.75

Survey Tool Program		Date 12/21/11		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	13,809.05	Plan #1 122111 (Wellbore #1)	MWD	MWD - Standard

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 122111	Database:	GCR DB v5000

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
0.00	0.00	0.00	-3,245.30	0.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
100.00	0.00	0.00	-3,145.30	100.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
200.00	0.00	0.00	-3,045.30	200.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
300.00	0.00	0.00	-2,945.30	300.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
400.00	0.00	0.00	-2,845.30	400.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
500.00	0.00	0.00	-2,745.30	500.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
600.00	0.00	0.00	-2,645.30	600.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
700.00	0.00	0.00	-2,545.30	700.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
800.00	0.00	0.00	-2,445.30	800.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
900.00	0.00	0.00	-2,345.30	900.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
1,000.00	0.00	0.00	-2,245.30	1,000.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
1,100.00	0.00	0.00	-2,145.30	1,100.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
1,200.00	0.00	0.00	-2,045.30	1,200.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
1,300.00	0.00	0.00	-1,945.30	1,300.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
1,400.00	0.00	0.00	-1,845.30	1,400.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
1,500.00	0.00	0.00	-1,745.30	1,500.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
1,600.00	0.00	0.00	-1,645.30	1,600.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
1,700.00	0.00	0.00	-1,545.30	1,700.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
1,800.00	0.00	0.00	-1,445.30	1,800.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
1,900.00	0.00	0.00	-1,345.30	1,900.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
2,000.00	0.00	0.00	-1,245.30	2,000.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
2,100.00	0.00	0.00	-1,145.30	2,100.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
2,200.00	0.00	0.00	-1,045.30	2,200.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
2,300.00	0.00	0.00	-945.30	2,300.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
2,400.00	0.00	0.00	-845.30	2,400.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
2,500.00	0.00	0.00	-745.30	2,500.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
2,600.00	0.00	0.00	-645.30	2,600.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	

Phoenix Technology Services
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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 122111	Database:	GCR DB v5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
2,700.00	0.00	0.00	-545.30	2,700.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
2,800.00	0.00	0.00	-445.30	2,800.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
2,900.00	0.00	0.00	-345.30	2,900.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
3,000.00	0.00	0.00	-245.30	3,000.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
3,100.00	0.00	0.00	-145.30	3,100.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
3,200.00	0.00	0.00	-45.30	3,200.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
3,300.00	0.00	0.00	54.70	3,300.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
3,400.00	0.00	0.00	154.70	3,400.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
3,500.00	0.00	0.00	254.70	3,500.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
3,600.00	0.00	0.00	354.70	3,600.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
3,700.00	0.00	0.00	454.70	3,700.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
3,800.00	0.00	0.00	554.70	3,800.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
3,900.00	0.00	0.00	654.70	3,900.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
4,000.00	0.00	0.00	754.70	4,000.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
4,100.00	0.00	0.00	854.70	4,100.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
4,200.00	0.00	0.00	954.70	4,200.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
4,300.00	0.00	0.00	1,054.70	4,300.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
4,400.00	0.00	0.00	1,154.70	4,400.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
4,500.00	0.00	0.00	1,254.70	4,500.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
4,600.00	0.00	0.00	1,354.70	4,600.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
4,700.00	0.00	0.00	1,454.70	4,700.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
4,800.00	0.00	0.00	1,554.70	4,800.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
4,900.00	0.00	0.00	1,654.70	4,900.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
5,000.00	0.00	0.00	1,754.70	5,000.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
5,100.00	0.00	0.00	1,854.70	5,100.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
5,200.00	0.00	0.00	1,954.70	5,200.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
5,300.00	0.00	0.00	2,054.70	5,300.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10

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5,400.00	0.00	0.00	2,154.70	5,400.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
5,500.00	0.00	0.00	2,254.70	5,500.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
5,600.00	0.00	0.00	2,354.70	5,600.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
5,700.00	0.00	0.00	2,454.70	5,700.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
5,800.00	0.00	0.00	2,554.70	5,800.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
5,900.00	0.00	0.00	2,654.70	5,900.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
6,000.00	0.00	0.00	2,754.70	6,000.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
6,100.00	0.00	0.00	2,854.70	6,100.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
6,200.00	0.00	0.00	2,954.70	6,200.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
6,300.00	0.00	0.00	3,054.70	6,300.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
6,400.00	0.00	0.00	3,154.70	6,400.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
6,500.00	0.00	0.00	3,254.70	6,500.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
6,600.00	0.00	0.00	3,354.70	6,600.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
6,700.00	0.00	0.00	3,454.70	6,700.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
6,800.00	0.00	0.00	3,554.70	6,800.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
6,900.00	0.00	0.00	3,654.70	6,900.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
7,000.00	0.00	0.00	3,754.70	7,000.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
7,100.00	0.00	0.00	3,854.70	7,100.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
7,200.00	0.00	0.00	3,954.70	7,200.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
7,300.00	0.00	0.00	4,054.70	7,300.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
7,400.00	0.00	0.00	4,154.70	7,400.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
7,500.00	0.00	0.00	4,254.70	7,500.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
7,600.00	0.00	0.00	4,354.70	7,600.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
7,700.00	0.00	0.00	4,454.70	7,700.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
7,800.00	0.00	0.00	4,554.70	7,800.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
7,900.00	0.00	0.00	4,654.70	7,900.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	
8,000.00	0.00	0.00	4,754.70	8,000.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10	

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 122111	Database:	GCR DB v5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
8,100.00	0.00	0.00	4,854.70	8,100.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
8,200.00	0.00	0.00	4,954.70	8,200.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
8,300.00	0.00	0.00	5,054.70	8,300.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
8,400.00	0.00	0.00	5,154.70	8,400.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
8,500.00	0.00	0.00	5,254.70	8,500.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
8,600.00	0.00	0.00	5,354.70	8,600.00	0.00	0.00	0.00	0.00	382,404.50	703,291.10
8,692.54	0.00	0.00	5,447.24	8,692.54	0.00	0.00	0.00	0.00	382,404.50	703,291.10
Start Build 12.00										
8,700.00	0.90	176.75	5,454.70	8,700.00	-0.06	0.00	0.06	12.00	382,404.44	703,291.10
8,800.00	12.90	176.75	5,553.79	8,799.09	-12.02	0.68	12.04	12.00	382,392.48	703,291.78
8,900.00	24.90	176.75	5,648.23	8,893.53	-44.30	2.51	44.37	12.00	382,360.20	703,293.61
9,000.00	36.90	176.75	5,733.89	8,979.19	-95.47	5.42	95.62	12.00	382,309.03	703,296.52
9,100.00	48.90	176.75	5,807.01	9,052.31	-163.30	9.27	163.56	12.00	382,241.20	703,300.37
9,200.00	60.90	176.75	5,864.41	9,109.71	-244.83	13.90	245.23	12.00	382,159.67	703,305.00
9,300.00	72.90	176.75	5,903.58	9,148.88	-336.50	19.10	337.04	12.00	382,068.00	703,310.20
9,400.00	84.90	176.75	5,922.81	9,168.11	-434.29	24.65	434.99	12.00	381,970.21	703,315.75
9,442.54	90.00	176.75	5,924.70	9,170.00	-476.70	27.06	477.46	12.00	381,927.80	703,318.16
Start 4366.52 hold at 9442.54 MD										
9,500.00	90.00	176.75	5,924.70	9,170.00	-534.07	30.31	534.93	0.00	381,870.43	703,321.41
9,600.00	90.00	176.75	5,924.70	9,170.00	-633.91	35.98	634.93	0.00	381,770.59	703,327.08
9,700.00	90.00	176.75	5,924.70	9,170.00	-733.75	41.65	734.93	0.00	381,670.75	703,332.75
9,800.00	90.00	176.75	5,924.70	9,170.00	-833.59	47.31	834.93	0.00	381,570.91	703,338.41
9,900.00	90.00	176.75	5,924.70	9,170.00	-933.43	52.98	934.93	0.00	381,471.07	703,344.08
10,000.00	90.00	176.75	5,924.70	9,170.00	-1,033.27	58.65	1,034.93	0.00	381,371.23	703,349.75
10,100.00	90.00	176.75	5,924.70	9,170.00	-1,133.11	64.31	1,134.93	0.00	381,271.39	703,355.41
10,200.00	90.00	176.75	5,924.70	9,170.00	-1,232.95	69.98	1,234.93	0.00	381,171.55	703,361.08
10,300.00	90.00	176.75	5,924.70	9,170.00	-1,332.78	75.65	1,334.93	0.00	381,071.72	703,366.75

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10,400.00	90.00	176.75	5,924.70	9,170.00	-1,432.62	81.31	1,434.93	0.00	380,971.88	703,372.41
10,500.00	90.00	176.75	5,924.70	9,170.00	-1,532.46	86.98	1,534.93	0.00	380,872.04	703,378.08
10,600.00	90.00	176.75	5,924.70	9,170.00	-1,632.30	92.65	1,634.93	0.00	380,772.20	703,383.75
10,700.00	90.00	176.75	5,924.70	9,170.00	-1,732.14	98.32	1,734.93	0.00	380,672.36	703,389.42
10,800.00	90.00	176.75	5,924.70	9,170.00	-1,831.98	103.98	1,834.93	0.00	380,572.52	703,395.08
10,900.00	90.00	176.75	5,924.70	9,170.00	-1,931.82	109.65	1,934.93	0.00	380,472.68	703,400.75
11,000.00	90.00	176.75	5,924.70	9,170.00	-2,031.66	115.32	2,034.93	0.00	380,372.84	703,406.42
11,100.00	90.00	176.75	5,924.70	9,170.00	-2,131.50	120.98	2,134.93	0.00	380,273.00	703,412.08
11,200.00	90.00	176.75	5,924.70	9,170.00	-2,231.34	126.65	2,234.93	0.00	380,173.16	703,417.75
11,300.00	90.00	176.75	5,924.70	9,170.00	-2,331.18	132.32	2,334.93	0.00	380,073.32	703,423.42
11,400.00	90.00	176.75	5,924.70	9,170.00	-2,431.02	137.98	2,434.93	0.00	379,973.48	703,429.08
11,500.00	90.00	176.75	5,924.70	9,170.00	-2,530.86	143.65	2,534.93	0.00	379,873.64	703,434.75
11,600.00	90.00	176.75	5,924.70	9,170.00	-2,630.70	149.32	2,634.93	0.00	379,773.80	703,440.42
11,700.00	90.00	176.75	5,924.70	9,170.00	-2,730.53	154.98	2,734.93	0.00	379,673.97	703,446.08
11,800.00	90.00	176.75	5,924.70	9,170.00	-2,830.37	160.65	2,834.93	0.00	379,574.13	703,451.75
11,900.00	90.00	176.75	5,924.70	9,170.00	-2,930.21	166.32	2,934.93	0.00	379,474.29	703,457.42
12,000.00	90.00	176.75	5,924.70	9,170.00	-3,030.05	171.98	3,034.93	0.00	379,374.45	703,463.08
12,100.00	90.00	176.75	5,924.70	9,170.00	-3,129.89	177.65	3,134.93	0.00	379,274.61	703,468.75
12,200.00	90.00	176.75	5,924.70	9,170.00	-3,229.73	183.32	3,234.93	0.00	379,174.77	703,474.42
12,300.00	90.00	176.75	5,924.70	9,170.00	-3,329.57	188.98	3,334.93	0.00	379,074.93	703,480.08
12,400.00	90.00	176.75	5,924.70	9,170.00	-3,429.41	194.65	3,434.93	0.00	378,975.09	703,485.75
12,500.00	90.00	176.75	5,924.70	9,170.00	-3,529.25	200.32	3,534.93	0.00	378,875.25	703,491.42
12,600.00	90.00	176.75	5,924.70	9,170.00	-3,629.09	205.99	3,634.93	0.00	378,775.41	703,497.09
12,700.00	90.00	176.75	5,924.70	9,170.00	-3,728.93	211.65	3,734.93	0.00	378,675.57	703,502.75
12,800.00	90.00	176.75	5,924.70	9,170.00	-3,828.77	217.32	3,834.93	0.00	378,575.73	703,508.42
12,900.00	90.00	176.75	5,924.70	9,170.00	-3,928.61	222.99	3,934.93	0.00	378,475.89	703,514.09
13,000.00	90.00	176.75	5,924.70	9,170.00	-4,028.45	228.65	4,034.93	0.00	378,376.05	703,519.75

Phoenix Technology Services
EOG Resources



Company:	EOG Resources	Local Co-ordinate Reference:	Well Red Hills West 16 State 7H
Project:	Lea County, NM (Nad27)	TVD Reference:	WELL @ 3245.30usft (Original Well Elev)
Site:	Red Hills West 16 State	MD Reference:	WELL @ 3245.30usft (Original Well Elev)
Well:	Red Hills West 16 State 7H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 122111	Database:	GCR DB v5000

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	D Lag (%/100usft)	Northing (usft)	Easting (usft)	
13,100.00	90.00	176.75	5,924.70	9,170.00	-4,128.29	234.32	4,134.93	0.00	378,276.21	703,525.42	
13,200.00	90.00	176.75	5,924.70	9,170.00	-4,228.12	239.99	4,234.93	0.00	378,176.38	703,531.09	
13,300.00	90.00	176.75	5,924.70	9,170.00	-4,327.96	245.65	4,334.93	0.00	378,076.54	703,536.75	
13,400.00	90.00	176.75	5,924.70	9,170.00	-4,427.80	251.32	4,434.93	0.00	377,976.70	703,542.42	
13,500.00	90.00	176.75	5,924.70	9,170.00	-4,527.64	256.99	4,534.93	0.00	377,876.86	703,548.09	
13,600.00	90.00	176.75	5,924.70	9,170.00	-4,627.48	262.65	4,634.93	0.00	377,777.02	703,553.75	
13,700.00	90.00	176.75	5,924.70	9,170.00	-4,727.32	268.32	4,734.93	0.00	377,677.18	703,559.42	
13,800.00	90.00	176.75	5,924.70	9,170.00	-4,827.16	273.99	4,834.93	0.00	377,577.34	703,565.09	
13,809.05	90.00	176.75	5,924.70	9,170.00	-4,836.20	274.50	4,843.98	0.00	377,568.30	703,565.60	
TD at 13809.05											

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
8,692.54	8,692.54	0.00	0.00	Start Build 12.00	
9,442.54	9,170.00	-476.70	27.06	Start 4366.52 hold at 9442.54 MD	
13,809.05	9,170.00	-4,836.20	274.50	TD at 13809.05	

Checked By: _____ Approved By: _____ Date: _____