

New Mexico Oil Conservation Division, District I

1625 N. French Drive

Hobbs, NM 88240

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

HOBBS OCD

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

JAN 02 2013

RECEIVED

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other

b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr. Other _____

2. Name of Operator COG OPERATING LLC Contact: BRIAN MAIORINO E-Mail: bmaiorino@concho.com

3. Address ONE CONCHO CENTER 600 WILLINOIS AVENUE MIDLAND, TX 79701 3a. Phone No. (include area code) Ph: 432-221-0467

4. Location of Well (Report location clearly and in accordance with Federal requirements)*
At surface SESE 990FSL 330FEL
At top prod interval reported below SWSW 624FSL 384FWL
At total depth SWSW 660FSL 330FWL

5. Lease Serial No. NNM105885

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

8. Lease Name and Well No. HERCULES FEDERAL COM 4H

9. API Well No. 30-005-29076-00-S1

10. Field and Pool, or Exploratory UNDESIGNATED-WOLFCAMP

11. Sec., T., R., M., or Block and Survey or Area Sec 15 T15S R31E Mer NMP

12. County or Parish CHAVES 13. State NM

14. Date Spudded 06/06/2012 15. Date T.D. Reached 07/19/2012 16. Date Completed ☐ D & A ☒ Ready to Prod. 08/28/2012

17. Elevations (DF, KB, RT, GL)* 4391 GL

18. Total Depth: MD 13209 TVD 8812 19. Plug Back T.D.: MD TVD 20. Depth Bridge Plug Set: MD TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each) CNL

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☐ No ☒ Yes (Submit analysis)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17.500	13.375 J-55	48.0	0	438		600		0	
12.250	9.625 J-55	40.0	0	3979		1400		0	
8.750	7.000 P-110	26.0	0	8011		1300		0	
6.125	4.500 P-110	11.6	7843	13089					

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.875	7568							

25. Producing Intervals

26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) WOLFCAMP	9132	12786	9132 TO 12786	0.410	14	OPEN FRAC PORTS
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
9132 TO 12786	ACIDIZE W/5,000 GAL 15% NEFE, FRAC W/1,612,831 GAL GEL CARRYING 1,549,010 20/40 WHITE

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
08/28/2012	09/26/2012	24	→	210.0	97.0	220.0	39.7		ELECTRIC PUMP SUB-SURFACE
Choke Size	Thg. Press. Flwg. SI	Csg. Press. 70	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
		70.0	→	210	97	220	462	POW	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Thg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #164331 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED

ACCEPTED FOR 6 MONTH PERIOD

ENDING

FEB 28 2013

ACCEPTED FOR RECORD

S/DAVID R. GLASS

DEC 27 2012

DAVID R. GLASS
PETROLEUM ENGINEER

Additional data for transaction #164331 that would not fit on the form

32. Additional remarks, continued

Log sent in the mail.

HOBBS OCD

JAN 02 2013

RECEIVED

COG Operating LLC

Chaves County, NM (NAD 83)

Hercules Federal Com #4H

Hercules Federal Com #4H

Wellbore #1

Survey: Crescent MWD Surveys

Standard Survey Report

24 July, 2012



COG Operating LLC
Hercules Federal Com #4H
Chaves County, NM (NAD 83)
Plan #1



Surface Location		Ground Elev. 4392.00 WELL @ 4410.00ft (Silver Oak #12)			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	732091.118	704206.521	33.011384	-103.802022

TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
PBHL (Hercules Federal Com #4H)	8758.00	-370.65	-4614.07	731720.471	699592.454	33.010428
						-103.817080

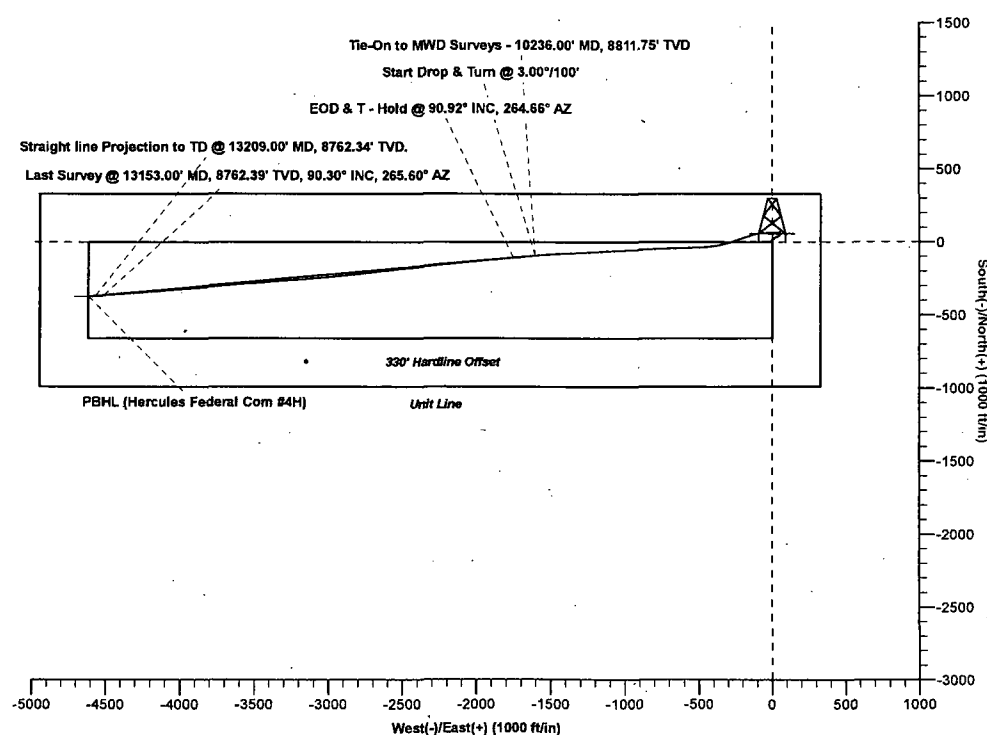
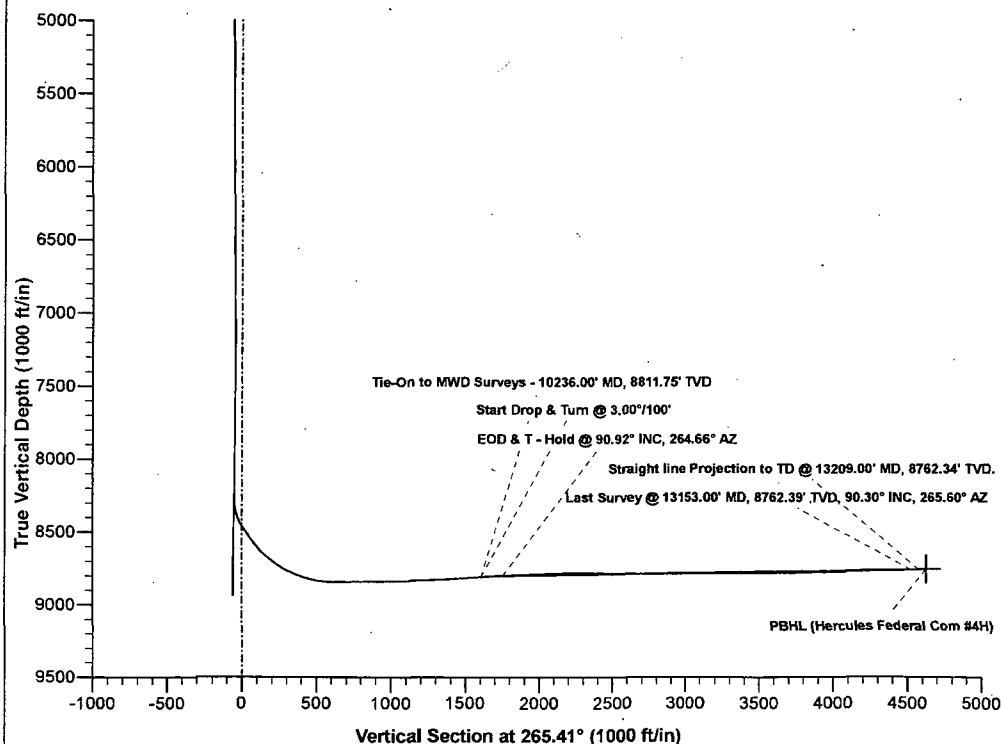
SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	TFace	VSec	Annotation
1	-10236.00	95.10	266.00	8811.75	-91.52	-1607.33	0.00	0.00	1609.50	Tie-On to MWD Surveys - 10236.00' MD, 8811.75' TVD
2	10382.30	90.92	264.66	8804.07	-103.41	-1752.91	3.00	-162.27	1755.56	EOD & T - Hold @ 90.92° INC, 264.66° AZ
3	13256.28	90.92	264.66	8758.00	-370.65	-4614.07	0.00	0.00	4628.93	TD @ 13256.28' MD, 8758.00' TVD



Azimuths to Grid North
 True North: -0.29°
 Magnetic North: 7.33°

Magnetic Field
 Strength: 48951.3nT
 Dip Angle: 60.85°
 Date: 7/6/2012
 Model: IGRF2010

Note:
The Unit line definition is an approximation based upon a perfect 5280' x 1320' drilling unit.



Survey Report

Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Hercules Federal Com #4H
Project:	Chaves County, NM (NAD 83)	TVD Reference:	WELL @ 4410.00ft (Silver Oak #12)
Site:	Hercules Federal Com #4H	MD Reference:	WELL @ 4410.00ft (Silver Oak #12)
Well:	Hercules Federal Com #4H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Houston R5000 Database

Project	Chaves County, NM (NAD 83)	System Datum:	Mean Sea Level
Map System:	US State Plane 1983		
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Hercules Federal Com #4H				
Site Position:		Northing:	732,091.118 ft	Latitude:	33.011384
From:	Map	Easting:	704,206.521 ft	Longitude:	-103.802022
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.29 °

Well	Hercules Federal Com #4H					
Well Position	+N/-S	0.00 ft	Northing:	732,091.118 ft	Latitude:	33.011384
	+E/-W	0.00 ft	Easting:	704,206.521 ft	Longitude:	-103.802022
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,392.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	7/6/2012	7.62	60.85	48,951

Design	Wellbore #1				
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	266.74	

Survey Program	Date	7/24/2012			
From	To	Survey (Wellbore)	Tool Name	Description	
(ft)	(ft)				
100.00	8,942.00	Gyro. Surveys (Wellbore #1)	MWD	MWD - Standard	
8,258.00	10,236.00	MWD Surveys (Wellbore #1)	MWD	MWD - Standard	
10,271.00	13,209.00	Crescent MWD Surveys (Wellbore #1)	MWD	MWD - Standard	

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate
(ft)			(ft)			(ft)	(°/100ft)	(°/100ft)	(°/100ft)
10,236.00	95.10	266.00	8,811.75	-91.53	-1,607.33	1,609.94	0.00	0.00	0.00
10,271.00	95.20	265.00	8,808.60	-84.26	-1,642.08	1,644.79	2.86	0.29	-2.86
10,303.00	94.30	265.40	8,805.95	-96.93	-1,673.86	1,676.66	3.08	-2.81	1.25
10,335.00	93.40	265.60	8,803.80	-99.43	-1,705.69	1,708.58	2.88	-2.81	0.63
10,367.00	92.70	265.40	8,802.10	-101.94	-1,737.55	1,740.53	2.27	-2.19	-0.63
10,397.00	92.60	264.50	8,800.72	-104.58	-1,767.40	1,770.48	3.02	-0.33	-3.00
10,429.00	92.00	264.10	8,799.43	-107.76	-1,799.21	1,802.43	2.25	-1.88	-1.25
10,461.00	91.70	264.10	8,798.40	-111.04	-1,831.03	1,834.38	0.94	-0.94	0.00
10,493.00	92.00	264.10	8,797.36	-114.33	-1,862.84	1,866.33	0.94	0.94	0.00

Survey Report

Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Hercules Federal Com #4H
Project:	Chaves County, NM (NAD 83)	TVD Reference:	WELL @ 4410.00ft (Silver Oak #12)
Site:	Hercules Federal Com #4H	MD Reference:	WELL @ 4410.00ft (Silver Oak #12)
Well:	Hercules Federal Com #4H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Houston R5000 Database

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,525.00	92.20	264.00	8,796.19	-117.65	-1,894.65	1,898.27	0.70	0.63	-0.31
10,557.00	92.20	264.10	8,794.96	-120.96	-1,926.45	1,930.21	0.31	0.00	0.31
10,589.00	92.40	263.80	8,793.68	-124.33	-1,958.25	1,962.15	1.13	0.63	-0.94
10,617.00	92.20	264.50	8,792.56	-127.18	-1,986.08	1,990.10	2.60	-0.71	2.50
10,649.00	92.40	264.30	8,791.27	-130.30	-2,017.90	2,022.05	0.88	0.63	-0.63
10,677.00	93.10	264.10	8,789.93	-133.13	-2,045.73	2,049.99	2.60	2.50	-0.71
10,711.00	93.40	263.60	8,788.00	-136.76	-2,079.48	2,083.89	1.71	0.88	-1.47
10,743.00	93.30	264.00	8,786.13	-140.22	-2,111.23	2,115.79	1.29	-0.31	1.25
10,775.00	92.40	264.10	8,784.54	-143.53	-2,143.02	2,147.72	2.83	-2.81	0.31
10,806.00	91.10	263.60	8,783.59	-146.85	-2,173.83	2,178.66	4.49	-4.19	-1.61
10,838.00	90.10	263.60	8,783.26	-150.41	-2,205.63	2,210.61	3.13	-3.13	0.00
10,870.00	89.90	263.80	8,783.26	-153.93	-2,237.43	2,242.57	0.88	-0.63	0.63
10,967.00	89.90	263.60	8,783.43	-164.57	-2,333.85	2,339.43	0.21	0.00	-0.21
11,063.00	89.20	263.80	8,784.18	-175.10	-2,429.26	2,435.29	0.76	-0.73	0.21
11,158.00	89.20	263.40	8,785.51	-185.69	-2,523.66	2,530.14	0.42	0.00	-0.42
11,253.00	89.00	263.30	8,787.00	-196.69	-2,618.01	2,624.96	0.24	-0.21	-0.11
11,349.00	89.00	263.40	8,788.68	-207.81	-2,713.35	2,720.78	0.10	0.00	0.10
11,444.00	89.20	263.30	8,790.17	-218.81	-2,807.70	2,815.60	0.24	0.21	-0.11
11,539.00	89.90	264.30	8,790.91	-229.07	-2,902.14	2,910.47	1.28	0.74	1.05
11,635.00	89.60	264.70	8,791.33	-238.27	-2,997.70	3,006.39	0.52	-0.31	0.42
11,730.00	90.10	264.70	8,791.58	-247.04	-3,092.29	3,101.33	0.53	0.53	0.00
11,825.00	91.00	265.60	8,790.67	-255.08	-3,186.94	3,196.29	1.34	0.95	0.95
11,920.00	90.40	265.20	8,789.51	-262.69	-3,281.63	3,291.26	0.76	-0.63	-0.42
12,016.00	89.70	265.20	8,789.42	-270.73	-3,377.29	3,387.22	0.73	-0.73	0.00
12,111.00	90.80	265.40	8,789.01	-278.51	-3,471.97	3,482.19	1.18	1.16	0.21
12,207.00	91.00	265.40	8,787.50	-286.21	-3,567.65	3,578.15	0.21	0.21	0.00
12,302.00	91.30	265.00	8,785.60	-294.16	-3,662.30	3,673.10	0.53	0.32	-0.42
12,397.00	91.30	264.80	8,783.44	-302.60	-3,756.90	3,768.02	0.21	0.00	-0.21
12,484.00	90.30	265.20	8,782.23	-310.18	-3,843.56	3,854.97	1.24	-1.15	0.46
12,580.00	92.00	265.60	8,780.30	-317.88	-3,939.22	3,950.92	1.82	1.77	0.42
12,675.00	92.00	265.60	8,776.98	-325.16	-4,033.89	4,045.85	0.00	0.00	0.00
12,770.00	90.40	265.20	8,774.99	-332.78	-4,128.56	4,140.80	1.74	-1.68	-0.42
12,866.00	92.20	265.90	8,772.82	-340.23	-4,224.24	4,236.75	2.01	1.88	0.73
12,961.00	92.40	265.60	8,769.00	-347.26	-4,318.90	4,331.66	0.38	0.21	-0.32
13,057.00	92.60	265.70	8,764.82	-354.53	-4,414.53	4,427.55	0.23	0.21	0.10
13,153.00	90.30	265.60	8,762.39	-361.81	-4,510.22	4,523.49	2.40	-2.40	-0.10
Last Survey @ 13153.00' MD, 8762.39' TVD, 90.30° INC, 265.60° AZ									
13,209.00	89.80	265.60	8,762.34	-366.11	-4,566.05	4,579.48	0.89	-0.89	0.00
Straight line Projection to TD @ 13209.00' MD, 8762.34' TVD									

Survey Report

Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Hercules Federal Com #4H
Project:	Chaves County, NM (NAD 83)	TVD Reference:	WELL @ 4410.00ft (Silver Oak #12)
Site:	Hercules Federal Com #4H	MD Reference:	WELL @ 4410.00ft (Silver Oak #12)
Well:	Hercules Federal Com #4H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Houston R5000.Database

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N-S (ft)	+E-W (ft)	
13,153.00	8,762.39	-361.81	-4,510.22	Last Survey @ 13153.00' MD, 8762.39' TVD, 90.30° INC, 265.60° AZ
13,209.00	8,762.34	-366.11	-4,566.05	Straight line Projection to TD @ 13209.00' MD, 8762.34' TVD.

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 and Natural Resources Department

Form C-102
Revised October 12, 2005

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

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-005-29076	Pool Code	Pool Name Wildcat;Wolfcamp
Property Code 37347	Property Name HERCULES FEDERAL COM	Well Number 4H
OGRID No. 229137	Operator Name C.O.G. OPERATING L.L.C.	Elevation 4392'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	15	15 S	31 E		990	SOUTH	330	EAST	CHAVES

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
M	15	15 S	31 E		624	SOUTH	384	WEST	CHAVES

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

BOTTOM HOLE LOCATION LAT.: N 33°00'37.59" LONG.: W103°49'01.61" SPC- N.: 731720.471 E.: 699582.454 (NAD-83)		SURFACE LOCATION LAT.: N 33°00'41.03" LONG.: W103°48'07.28" SPC- N.: 732091.118 E.: 704206.521 (NAD-83)		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. 12/14/12 Signature Date Brian Maiorino 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. AUGUST 5, 2007 Date Surveyed Signature & Seal of Mexico Professional Surveyor Professional Surveyor W.O. Jones Certificate No. Gary L. Jones 7977		BASIN SURVEYS		