

5-12-11 DATE IN	SUSPENSE	ENGINEER DB	LOGGED IN	TYPE NSL	APP NO. 1113629906
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505



Benson-Montin-Dreer
Canada Ogilvie Unit # 484
6395

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

- [1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]
- [A] Location - Spacing Unit - Simultaneous Dedication
☒ NSL ☐ NSP ☐ SD
- Check One Only for [B] or [C]
- [B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR
- [D] Other: Specify _____

- [2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or Does Not Apply
- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
- [B] ☐ Offset Operators, Leaseholders or Surface Owner
- [C] ☐ Application is One Which Requires Published Legal Notice
- [D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] ☐ Waivers are Attached

R-6469-B

- [3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Print or Type Name	Signature	Title	Date
		e-mail Address	

4-1-11	SUSPENSE	ENGINEER DB	LOGGED IN	TYPE NSL	APP NO. 1109429623
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
RECEIVED OOD - Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505



2096
Benson - Martin - Free
Canada Ojitos U#48

2011 MAY 13 AM 11:48

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

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[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication

☒ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement

☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify _____

Fed.
Rio Arriba

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☐ Offset Operators, Leaseholders or Surface Owner

[C] ☐ Application is One Which Requires Published Legal Notice

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO

U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

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[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Loren Diede

Print or Type Name

[Signature]

Signature

Drilling/completions

Title

5-12-11

Date

Ldiede@bmgdrilling.com

e-mail Address



NM Oil Conservation Division

May 12, 2011

David Brooks

1220 South St. Francis Drive

Santa Fe, NM 87505

Dear Mr. Brooks:

This letter is in response to your letter dated 4-25-2011 requesting that BMG Drilling Corp re-submit the NSL application and furnish additional information for the proposed Canada Ojitos Unit # 48H.

Benson-Montin-Greer Drilling Corp. (BMG) requests the State of New Mexico Oil Conservation Division's approval to drill the Canada Ojitos Unit (COU) # 48H in the following unorthodox directional well location: Surface: 927' FSL and 1521' FWL, Unit N, Sec 31, T26N, R1W. The estimated penetration point into the Mancos formation is: 1153' FSL and 1713' FWL, Unit N, Sec 31, T 26N, R1W. The toe of the lateral is to be at 375' FNL and 375' FEL, Unit A, Sec 31, T26N, R1W, Rio Arriba County New Mexico. The top of the Mancos is estimated to be at 6088' TVD. 1650

The initial request was made in a letter dated 3-29-11. The NMOCD requested more data regarding the Mancos point of penetration for this well. The data was not able to be furnished in a timely manner and the NMOCD returned the request to BMG to be re-filed at a later date.

This well is intended to be drilled and completed in the Mancos formation. The well will be drilled in the Canada Ojitos Unit; the sections adjacent to section 31 on the north, east and south are within the Canada Ojitos Unit. The Mancos interest owners have the same interest throughout the unit. The Gavilan Unit borders section 31 to the west.

BMG Drilling Corp COU # 48H

The COU # 48H is to be cased with the cemented 7" intermediate casing to an estimated depth of 7400' TVD (8014' MD). The lateral section of the hole is to be drilled from 8014' MD to 12022' MD, cased with 4 ½" casing and cemented in place.

The location of this well was selected to maximize the benefit of naturally fractured reservoir characteristics. The location selection is further affected by topography and by the need to minimize surface disturbance within the Santa Fe National Forest. The surface location is to be located on the pad previously used for the plugged and abandoned COU # 31.

The nearest producing well (BMG's COU # 29, a Mancos producer) is approximately 2800 ft south of the proposed COU # 48H surface location.

We are submitting the following:

1. A copy of the NM OCD form C-102.
2. Nine-section map of the surrounding area with location of the other producing Mancos wells.
3. A copy of the Weatherford Drilling Services directional drilling plan

This application is filed in accordance with NMAC 19.15.15. This application also references the NMOCD "Special Rules for the West Puerto Chiquito-Mancos Oil Pool" Order No. R-6469-B. Of special consideration is Rule 5 as it applies to the application for unorthodox location as necessitated by topographical conditions.

We respectfully request your approval on this application.

Sincerely,



Loren Diede

Benson-Montin-Greer Drilling Corporation

Drilling / Completions

(505) 324-5068

BMG Drilling Corp COU # 48H

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 83210
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 15, 2009
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code 50440	³ Pool Name PUERTO CHIQUITO MANCOS WEST
⁴ Property Code 001954	⁵ Property Name CANADA OJITOS UNIT	⁶ Well Number 48H
⁷ OGRID No. 002096	⁸ Operator Name BENSON-MONTIN-GREER DRILLING CORPORATION	⁹ Elevation 7579.8'

¹⁰ Surface Location

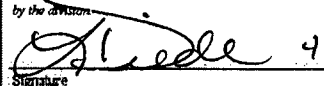
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	31	26-N	1-W		927	SOUTH	1521	WEST	RIO ARriba

¹¹ 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
A	31	26-N	1-W		375	NORTH	375	EAST	RIO ARriba

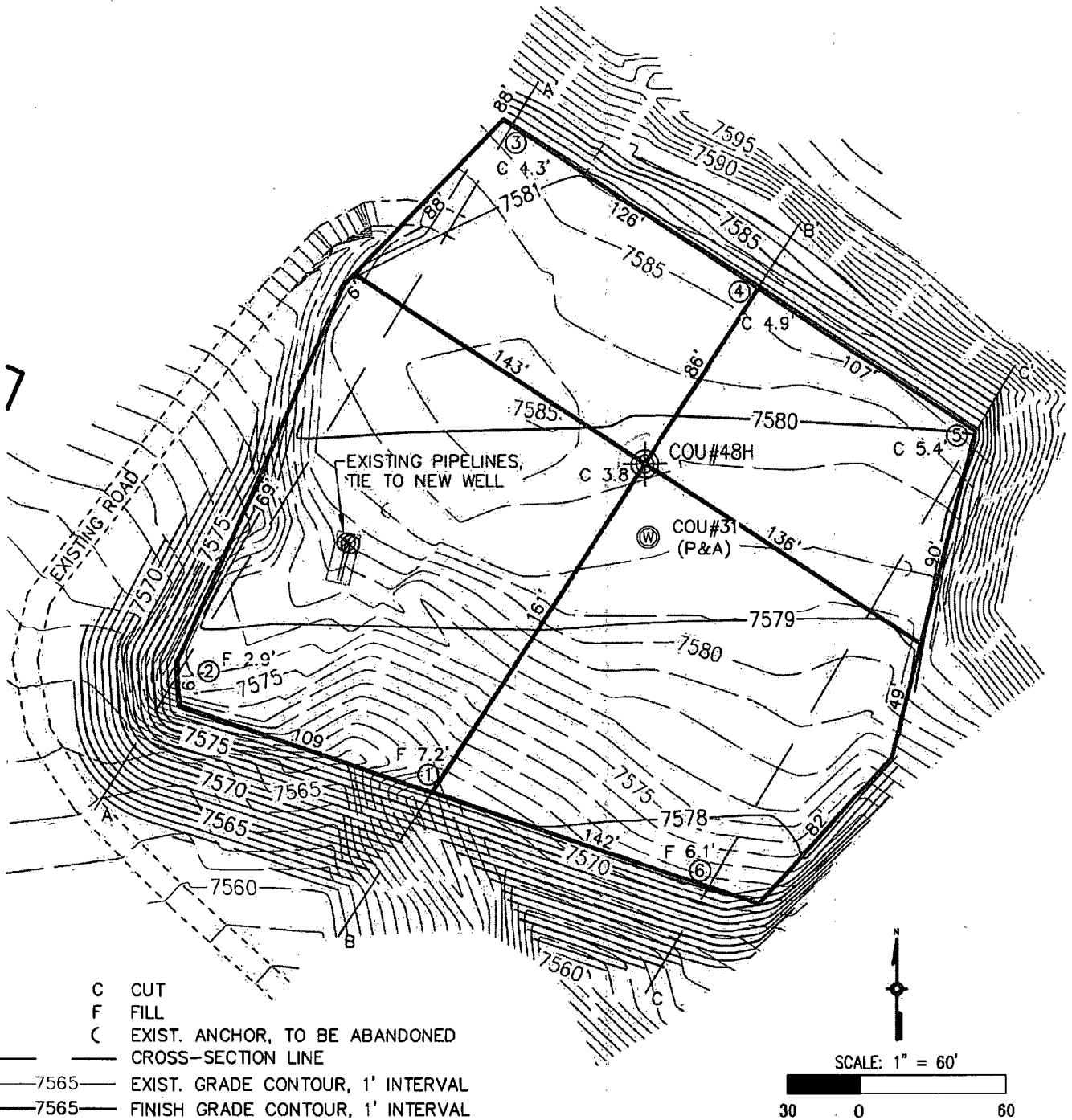
¹² Dedicated Acres 640	¹³ Joint or Infill N	¹⁴ Consolidation Code U	¹⁵ Order No. NSL PENDING
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

¹⁶	BOTTOM HOLE LOCATION LAT 36 26 50.883 LONG 106 58 33.734 N 1982953.13 E 1426885.59 (STATE PLANE, NM CENTRAL ZONE)	¹⁷ 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 undivided 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.  Signature Date 4-26-11 Loren Diede Printed Name
SURFACE LOCATION LAT 36 26 12.135 LONG 106 59 14.881 N 1979060.41 E 1423494.05 (STATE PLANE, NM CENTRAL ZONE)	2 1/2" B.C. S 1/4 S31 G.L.O. 1919	18 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. APRIL 26 2011 Date of Survey Signature J. E. PENDERGRAFT 12652 REGISTERED LAND SURVEYOR Certificate Number
2 1/2" B.C. S 1/4 S31 G.L.O. 1917	2 1/2" B.C. S 1/4 S31 G.L.O. 1917	

WELL PAD DIAGRAM

COMPANY: BENSON-MONTIN-GREER DRILLING CORPORATION
 LEASE: CANADA OJITOS UNIT WELL: #48H
 FOOTAGE: 927' FSL & 1521' FWL UNIT: N
 SEC: 31 TWN: 26 N RNG: 1 W, NMPM, RIO ARRIBA, NM.
 ELEVATION: 7579.8



C CUT
 F FILL
 C EXIST. ANCHOR, TO BE ABANDONED
 ——— CROSS-SECTION LINE
 —7565— EXIST. GRADE CONTOUR, 1' INTERVAL
 —7565— FINISH GRADE CONTOUR, 1' INTERVAL

BENSON-MONTIN-GREER DRILLING CORPORATION
WELL NAME COU #48H
SECTION 31, T26N, R1W, NMPM

FIGURE
1

REVISIONS
 BY _____ DATE _____ DESCR. _____
 BY _____ DATE _____ DESCR. _____
 BY _____ DATE _____ DESCR. _____

DRAWN NEW
 CHECKED LR
 APPROVED EP
 DATE MAR 2011

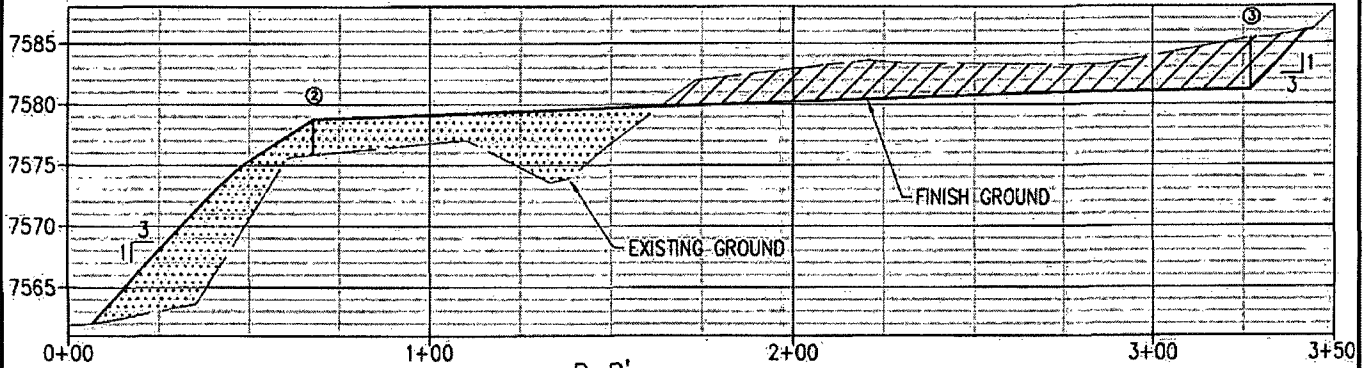
SMA
 Civil / Environmental
 Scientists & Engineers

SOUDER, MILLER & ASSOCIATES, 2101 SAN JUAN BLVD,
 FARMINGTON, NEW MEXICO 87401 TELE: 505-325-7535
 Albuquerque - Las Cruces - Santa Fe, NM
 Grand Junction - Cortez, CO - Monticello, UT

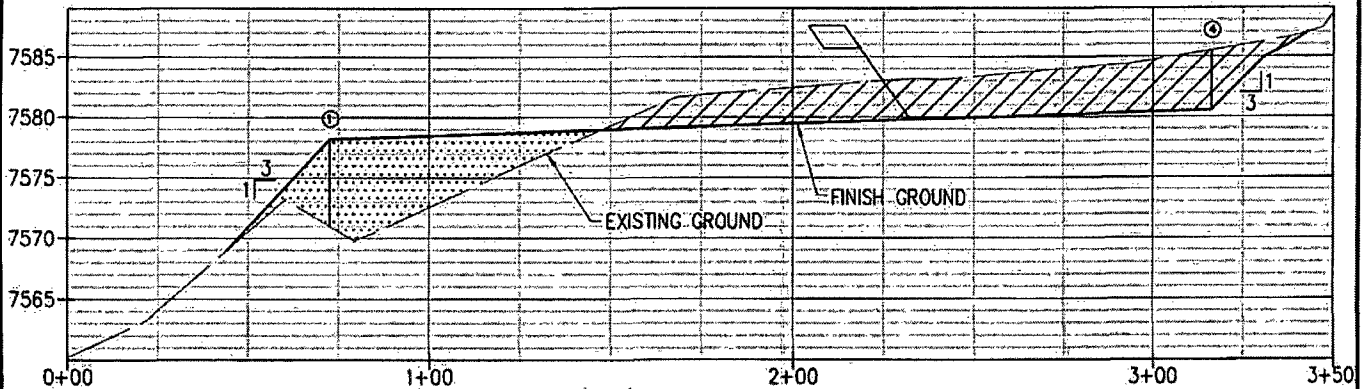
WELL PAD CROSS-SECTIONS

COMPANY: BENSON-MONTIN-GREER DRILLING CORPORATION
 LEASE: CANADA OJITOS UNIT WELL: #48H
 FOOTAGE: 927' FSL & 1521' FWL UNIT: N
 SEC: 31 TWN: 26 N RNG: 1 W NMPM, RIO ARRIBA, NM.
 ELEVATION: 7579.8

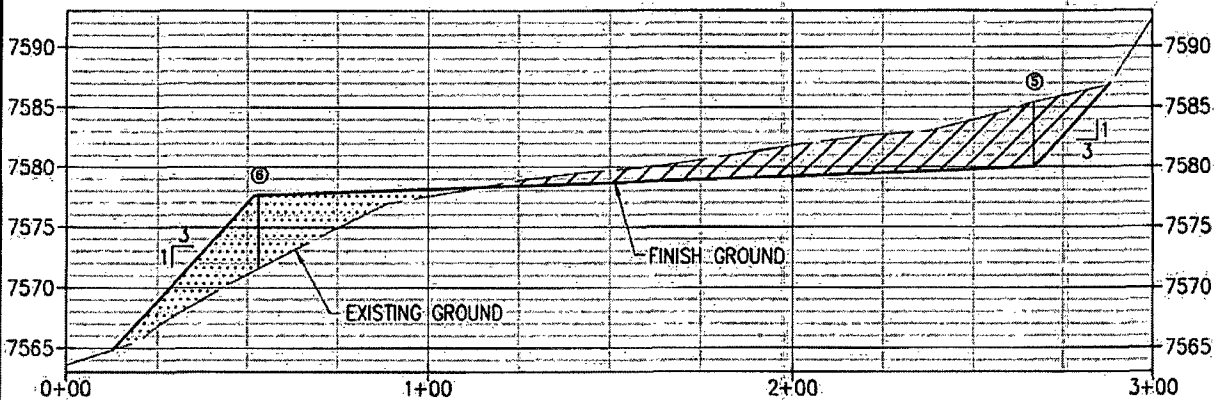
A-A'



B-B'



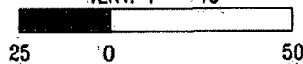
C-C'



CUT: 5,171 CY

FILL: 5,120 CY

SCALE: HORIZ. 1" = 50'
 VERT. 1" = 15'



NOTE:
 SOUDER, MILLER & ASSOCIATES IS NOT LIABLE
 FOR UNDERGROUND UTILITIES OR PIPELINES. NEW
 MEXICO ONE-CALL TO BE NOTIFIED 48 HOURS
 PRIOR TO EXCAVATION OR CONSTRUCTION.

BENSON-MONTIN-GREER DRILLING CORPORATION
WELL NAME COU #48H
SECTION 31, T26N, R1W, NMPM

FIGURE
2

REVISIONS
 BY _____ DATE _____ DESCR. _____
 BY _____ DATE _____ DESCR. _____
 BY _____ DATE _____ DESCR. _____

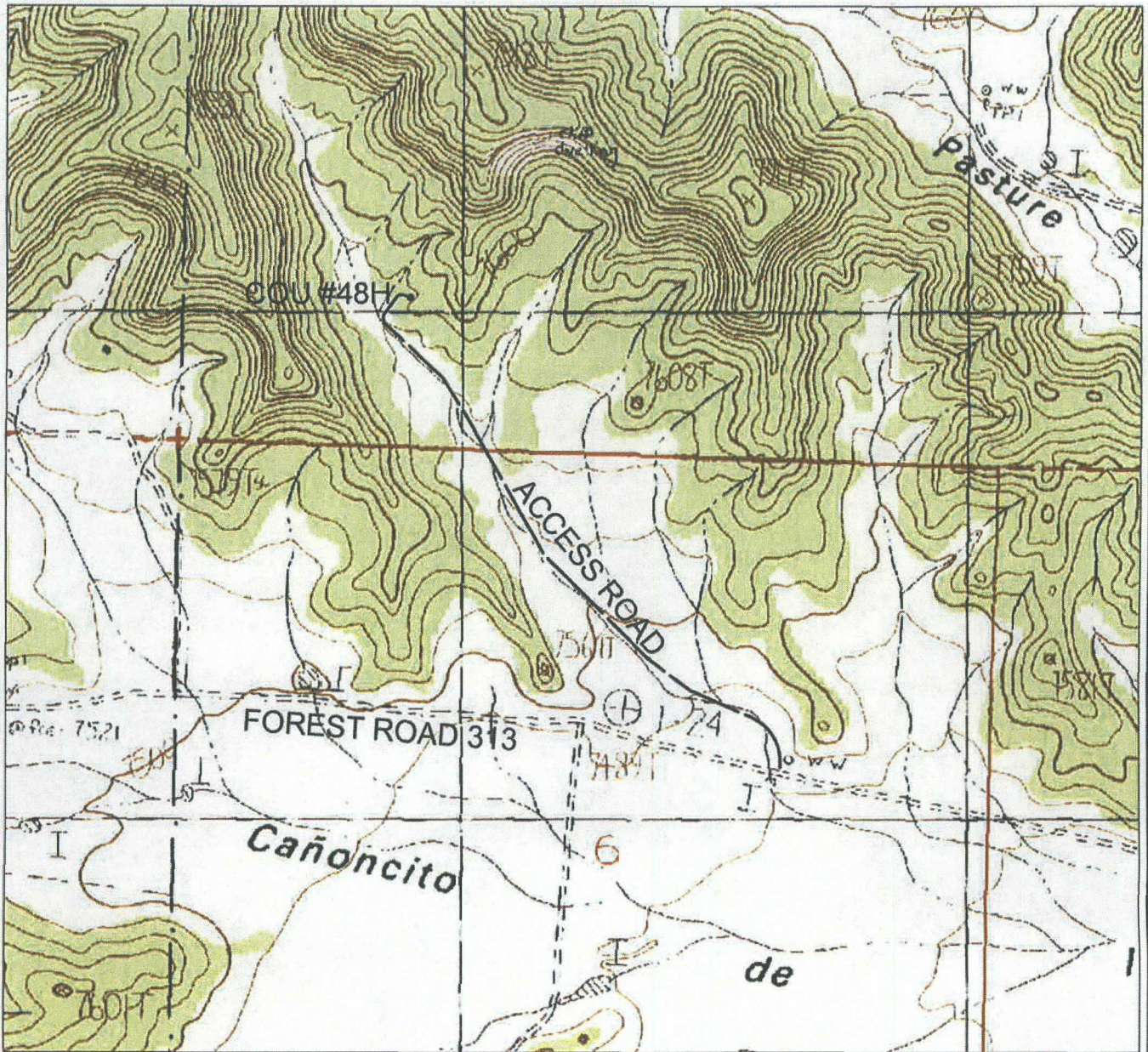
DRAWN _____ NEW
 CHECKED _____ LB
 APPROVED _____ JEP
 DATE _____ MAR 2011

SMA
 Civil / Environmental
 Scientists & Engineers

**SOUDER, MILLER & ASSOCIATES, 2101 SAN JUAN BLVD,
 FARMINGTON, NEW MEXICO 87401 TELE: 505-325-7535**
 Albuquerque - Las Cruces - Santa Fe, NM
 Grand Junction - Cortez, CO - Monticello, UT

WELL PAD TOPOGRAPHY

COMPANY: BENSON-MONTIN-GREER DRILLING CORPORATION
 LEASE: CANADA OJITOS UNIT WELL: #48H
 FOOTAGE: 927' FSL & 1521' FWL UNIT: N
 SEC: 31 TWN: 26 N RNG: 1 W, NMPM, RIO ARRIBA, NM.
 ELEVATION: 7579.8



SCALE: 1" = 1000'
 500 0 1000

BENSON-MONTIN-GREER DRILLING CORPORATION
WELL NAME COU #48H
SECTION 31, T26N, R1W, NMPM

FIGURE
3

REVISIONS	
BY _____	DATE _____
DESCR. _____	
BY _____	DATE _____
DESCR. _____	
BY _____	DATE _____
DESCR. _____	

DRAWN	MEW
CHECKED	LB
APPROVED	JEP
DATE	MAR 2011



SOUDER, MILLER & ASSOCIATES, 2101 SAN JUAN BLVD,
 FARMINGTON, NEW MEXICO 87401 TELE: 505-325-7535
 Albuquerque - Las Cruces - Santa Fe, NM
 Grand Junction - Cortez, CO - Monticello, UT

WELL PAD DESCRIPTION

COMPANY: BENSON-MONTIN-GREER DRILLING CORPORATION
 LEASE: CANADA OJITOS UNIT WELL: #48H
 FOOTAGE: 927' FSL & 1521' FWL UNIT: N
 SEC: 31 TWN: 26 N, RNG: 1 W, NMPM, RIO ARRIBA, NM.
 ELEVATION: 7579.8

A PARCEL OF LAND FOR THE PURPOSE OF A WELL LOCATION IN THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER (SE/4SW/4) OF SECTION THIRTY-ONE (31), TOWNSHIP TWENTY-SIX (26) NORTH, RANGE ONE (1) WEST, N.M.P.M., RIO ARRIBA COUNTY, NEW MEXICO, DESCRIBED AS FOLLOWS:

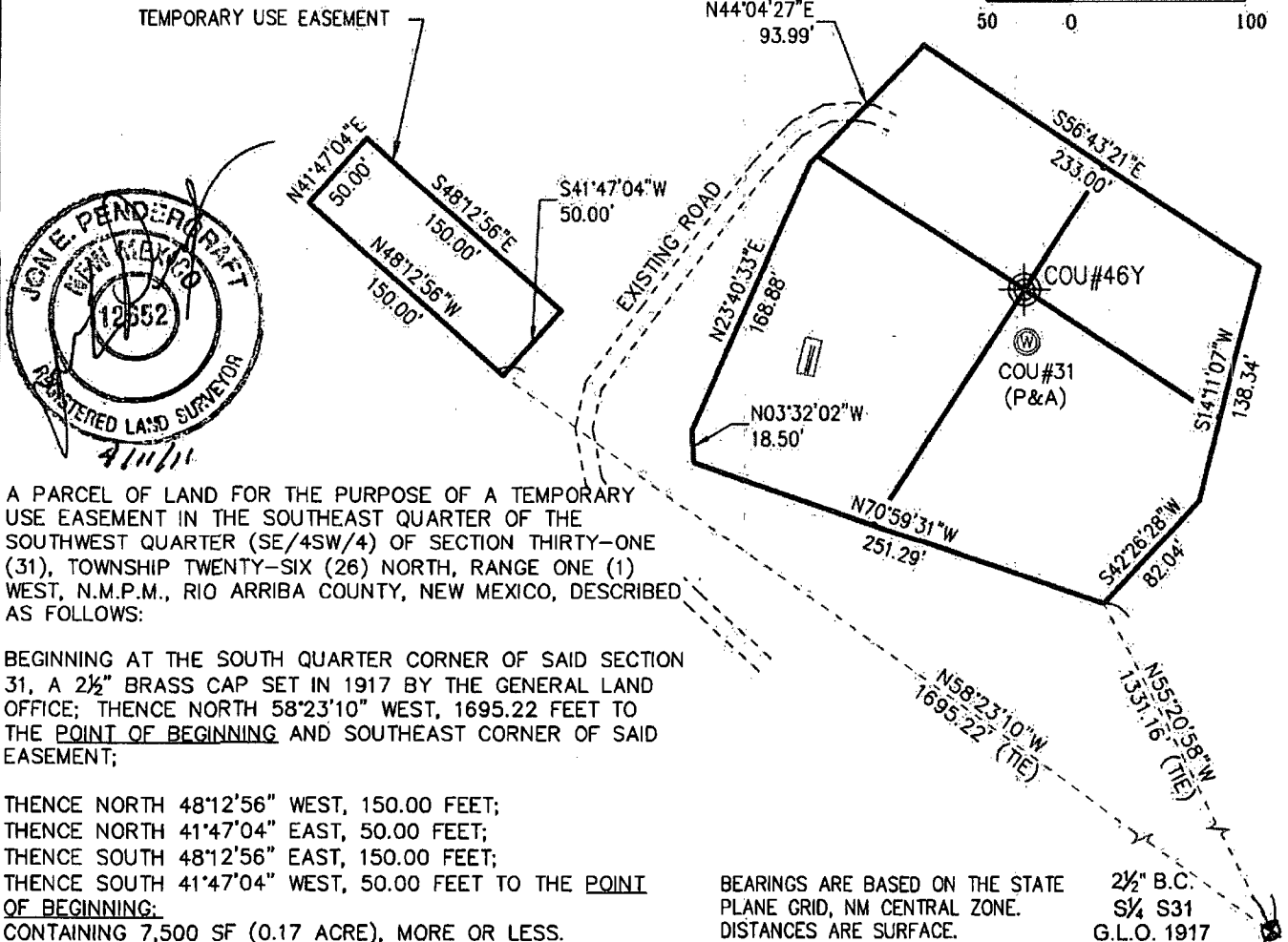
BEGINNING AT THE SOUTH QUARTER CORNER OF SAID SECTION 31, A 2½" BRASS CAP SET IN 1917 BY THE GENERAL LAND OFFICE; THENCE NORTH 55°20'58" WEST, 1331.16 FEET TO THE POINT OF BEGINNING AND SOUTHEAST CORNER OF SAID PARCEL;

THENCE NORTH 70°59'31" WEST, 251.29 FEET;
 THENCE NORTH 03°32'02" WEST, 18.50 FEET;
 THENCE NORTH 23°40'33" EAST, 168.88 FEET;
 THENCE NORTH 44°04'27" EAST, 93.99 FEET;
 THENCE SOUTH 56°43'21" EAST, 233.00 FEET;
 THENCE SOUTH 14°11'07" WEST, 138.34 FEET
 THENCE SOUTH 42°26'28" WEST, 82.04 FEET TO THE POINT OF BEGINNING;
 CONTAINING 65,470 SF (1.50 ACRE), MORE OR LESS.



SCALE: 1" = 100'

50 0 100



A PARCEL OF LAND FOR THE PURPOSE OF A TEMPORARY USE EASEMENT IN THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER (SE/4SW/4) OF SECTION THIRTY-ONE (31), TOWNSHIP TWENTY-SIX (26) NORTH, RANGE ONE (1) WEST, N.M.P.M., RIO ARRIBA COUNTY, NEW MEXICO, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTH QUARTER CORNER OF SAID SECTION 31, A 2½" BRASS CAP SET IN 1917 BY THE GENERAL LAND OFFICE; THENCE NORTH 58°23'10" WEST, 1695.22 FEET TO THE POINT OF BEGINNING AND SOUTHEAST CORNER OF SAID EASEMENT;

THENCE NORTH 48°12'56" WEST, 150.00 FEET;
 THENCE NORTH 41°47'04" EAST, 50.00 FEET;
 THENCE SOUTH 48°12'56" EAST, 150.00 FEET;
 THENCE SOUTH 41°47'04" WEST, 50.00 FEET TO THE POINT OF BEGINNING;
 CONTAINING 7,500 SF (0.17 ACRE), MORE OR LESS.

BENSON-MONTIN-GREER DRILLING CORPORATION
WELL NAME COU #48H
SECTION 31, T26N, R1W, NMPM

FIGURE
4

REVISIONS
 BY DATE DESCR.
 BY DATE DESCR.
 BY DATE DESCR.

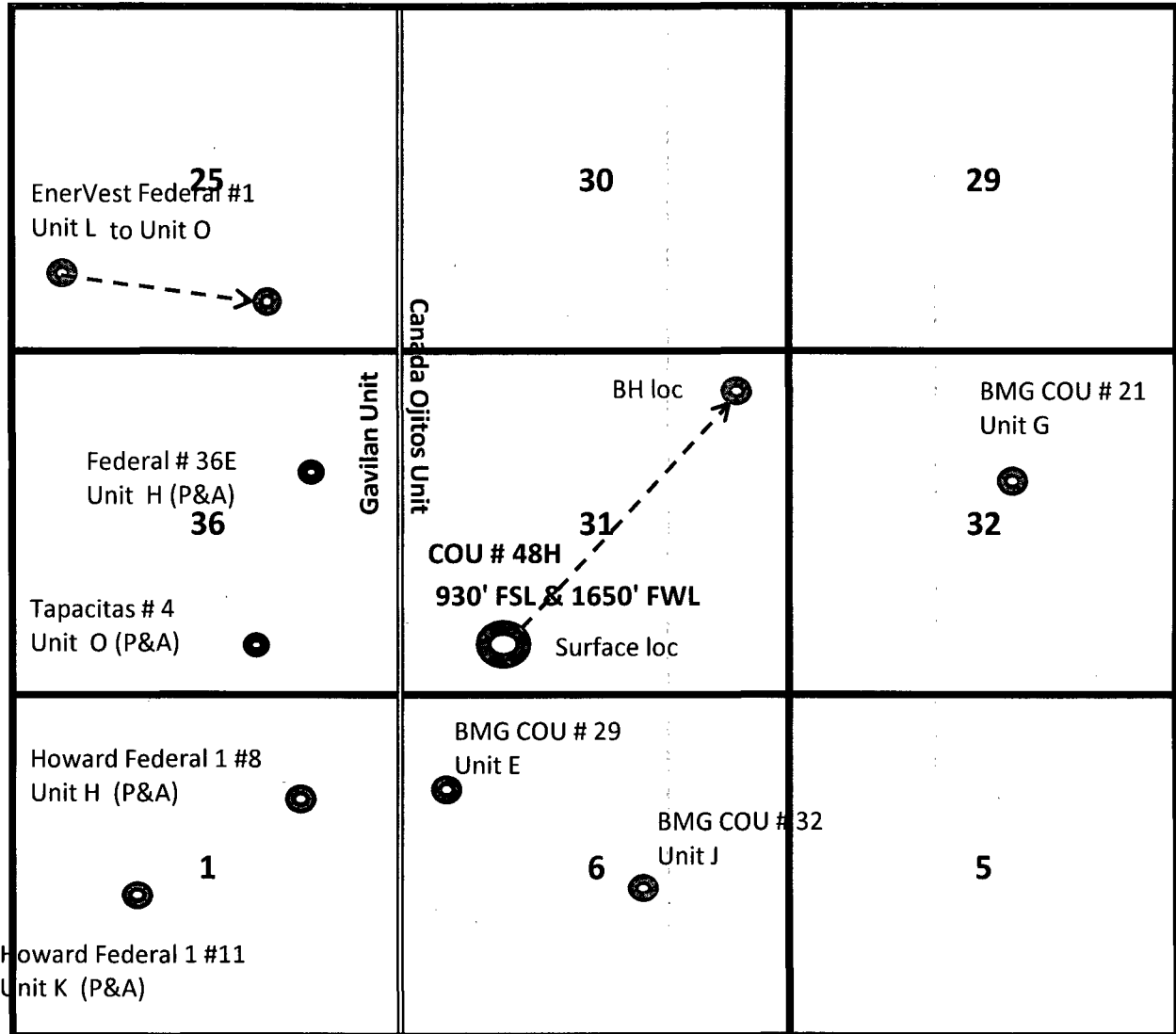
DRAWN MEW
 CHECKED LR
 APPROVED EP
 DATE MAR 2011



SOUDER, MILLER & ASSOCIATES, 2101 SAN JUAN BLVD.
 FARMINGTON, NEW MEXICO 87401 TELE: 505-325-7535
 Albuquerque - Las Cruces - Santa Fe, NM
 Grand Junction - Cortez, CO - Monticello, UT

Benson-Montin-Greer Drilling Corp
Canada Ojitos Unit # 48H
Unit N to Unit A, Sec 31, T26N, R1W
Rio Arriba, NM

9 Section Offset Map





Weatherford®

Drilling Services

Proposal

BMG

CANADA OJITOS #48H

RIO ARRIBA CO, NM

WELL FILE: **PLAN 5**

APRIL 19, 2011

Weatherford International, Ltd.

P.O. Box 61028

Midland, TX 79711 USA

+1.432.561.8892 Main

+1.432.561.8895 Fax

www.weatherford.com

BMG Canada Ojitos # 48H Rio Arriba Co, NM

SECTION DETAILS						
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W
1	0.00	0.00	40.41	0.00	0.00	0.00
2	4000.00	0.00	40.41	4000.00	0.00	0.00
3	4298.85	8.97	40.41	4297.63	17.77	15.13
4	5921.04	0.00	40.41	5900.00	210.26	179.00
5	6219.88	0.00	40.41	6197.63	228.03	194.13
6	6688.63	0.00	40.41	6666.37	228.03	194.13
7	7751.13	85.00	40.41	7379.85	725.83	617.94
8	7951.13	85.00	40.41	7379.85	877.54	747.10
9	8013.63	90.16	40.41	7398.64	925.06	787.56
10	8085.77	92.16	40.41	7398.64	979.98	834.31
11	12021.90	92.16	40.41	7250.00	3975.00	3384.00

WELL DETAILS						
Name	+N/-S	+E/-W	North	East	Latitude	Longitude
Canada Ojitos #48H	0.00	0.00	1983993.85	1424421.21	36°27'00.950N	106°59'04.029W

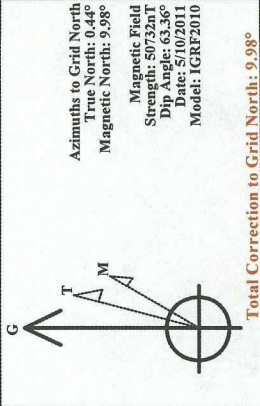
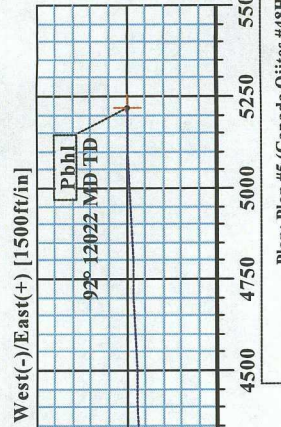
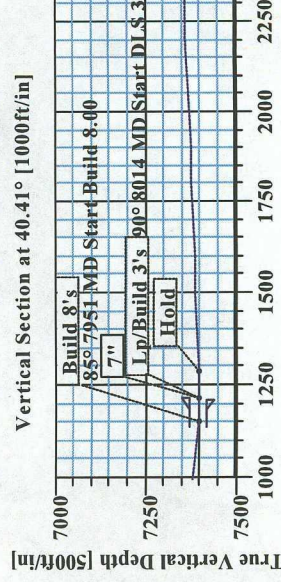
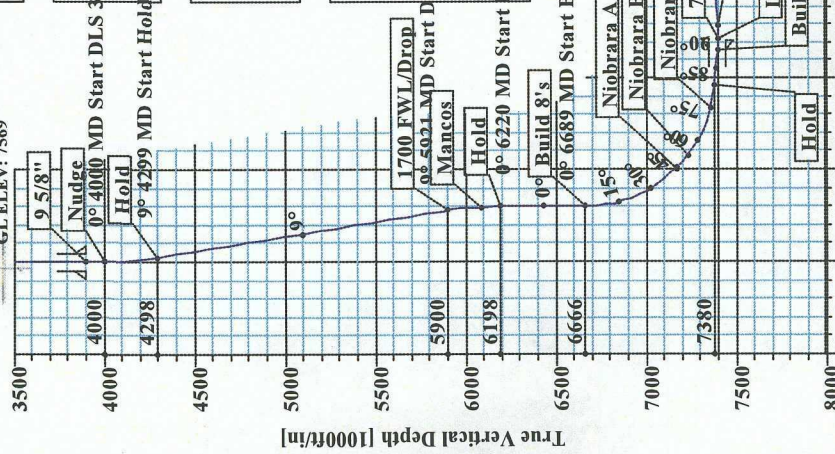
TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	North	East	Shape
1700 FWL	5900.00	210.26	179.00	1984204.11	1424600.21	Point
Pbhl	7250.00	3975.00	3384.00	1987968.85	1427805.21	Point

SITE DETAILS
Canada Ojitos #48H
Site Centre Northing: 1983993.85
TFO 180.00 Easting: 1424421.21
Ground Level: 7569.00
Positional Uncertainty: 0.00
Convergence: -0.44

FIELD DETAILS
Rio Arriba Co, NM (Nad 83)
Geodetic System: GRS 1980
Ellipsoid: New Mexico, Central Zone
Magnetic Model: IGRF2010
System Datum: Mean Sea Level
Local North: Grid North

CASING DETAILS				
No.	TVD	MD	Name	Size
1	3900.00	3900.00	9 5/8"	9.625
2	7400.00	8013.63	7"	7.000

KB ELEV: 7581
GL ELEV: 7569



Total Correction to Grid North: 9.98°

Weatherford International Ltd.

WFT Plan Report - X & Y's



Company: BMG	Date: 4/19/2011	Time: 14:27:09	Page: 1
Field: Rio Arriba Co, NM (Nad 83)	Co-ordinate(NE) Reference:	Well: Canada Ojitos #48H, Grid North	
Site: Canada Ojitos #48H	Vertical (TVD) Reference:	SITE 7581.0	
Well: Canada Ojitos #48H	Section (VS) Reference:	Well (0.00N,0.00E,40.41Azi)	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Plan: Plan #5	Date Composed: 12/28/2010
Principal: Yes	Version: 1
	Tied-to: From Surface

Field: Rio Arriba Co, NM (Nad 83)	
Map System: US State Plane Coordinate System 1983	Map Zone: New Mexico, Central Zone
Geo Datum: GRS 1980	Coordinate System: Well Centre
Sys Datum: Mean Sea Level	Geomagnetic Model: IGRF2010

Site: Canada Ojitos #48H									
Site Position:		Northing:		1983993.85 ft		Latitude:		36 27 0.950 N	
From: Map		Easting:		1424421.21 ft		Longitude:		106 59 4.029 W	
Position Uncertainty:		0.00 ft				North Reference:		Grid	
Ground Level:		7569.00 ft				Grid Convergence:		-0.44 deg	

Well: Canada Ojitos #48H			Slot Name:			
Well Position:	+N/-S	0.00 ft	Northings:	1983993.85 ft	Latitude:	36 27 0.950 N
	+E/-W	0.00 ft	Easting :	1424421.21 ft	Longitude:	106 59 4.029 W
Position Uncertainty:		0.00 ft				

Wellpath: 1		Drilled From: Surface	
Current Datum: SITE	Height 7581.00 ft	Tie-on Depth:	0.00 ft
Magnetic Data: 5/10/2011		Above System Datum:	Mean Sea Level
Field Strength: 50732 nT		Declination:	9.54 deg
Vertical Section:	Depth From (TVD)	Mag Dip Angle:	63.36 deg
	ft	+N/-S	Direction
		ft	deg
	0.00	0.00	0.00
			40.41

Plan Section Information

MD	Incl	Azim	TVD	+N/-S	+E/-W	DLS	Build	Turn	TFO	Target
ft	deg	deg	ft	ft	ft	deg/100ft	deg/100ft	deg/100ft	deg	
0.00	0.00	40.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4000.00	0.00	40.41	4000.00	0.00	0.00	0.00	0.00	0.00	40.41	
4298.85	8.97	40.41	4297.63	17.77	15.13	3.00	3.00	0.00	40.41	
5921.04	8.97	40.41	5900.00	210.26	179.00	0.00	0.00	0.00	0.00	1700 FWL
6219.88	0.00	40.41	6197.63	228.03	194.13	3.00	-3.00	0.00	180.00	
6688.63	0.00	40.41	6666.37	228.03	194.13	0.00	0.00	0.00	0.00	
7751.13	85.00	40.41	7379.85	725.83	617.94	8.00	8.00	0.00	0.00	
7951.13	85.00	40.41	7397.28	877.54	747.10	0.00	0.00	0.00	0.00	
8013.63	90.00	40.41	7400.00	925.06	787.56	8.00	8.00	0.00	0.00	
8085.77	92.16	40.41	7398.64	979.98	834.31	3.00	3.00	0.00	-0.05	
12021.90	92.16	40.41	7250.00	3975.00	3384.00	0.00	0.00	0.00	0.00	Pbhl

Survey

MD	Incl	Azim	TVD	N/S	E/W	VS	DLS	MapN	MapE	Comment
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	ft	
4000.00	0.00	40.41	4000.00	0.00	0.00	0.00	0.00	1983993.85	1424421.21	Nudge
4100.00	3.00	40.41	4099.95	1.99	1.70	2.62	3.00	1983995.84	1424422.91	
4200.00	6.00	40.41	4199.63	7.97	6.78	10.46	3.00	1984001.81	1424427.99	
4298.85	8.97	40.41	4297.63	17.77	15.13	23.33	3.00	1984011.61	1424436.34	Hold
4300.00	8.97	40.41	4298.77	17.90	15.24	23.51	0.00	1984011.75	1424436.45	
4400.00	8.97	40.41	4397.55	29.77	25.34	39.10	0.00	1984023.62	1424446.55	
4500.00	8.97	40.41	4496.32	41.64	35.45	54.68	0.00	1984035.48	1424456.66	
4600.00	8.97	40.41	4595.10	53.50	45.55	70.26	0.00	1984047.35	1424466.76	
4700.00	8.97	40.41	4693.88	65.37	55.65	85.85	0.00	1984059.22	1424476.86	
4800.00	8.97	40.41	4792.66	77.24	65.75	101.43	0.00	1984071.08	1424486.96	
4900.00	8.97	40.41	4891.44	89.10	75.85	117.02	0.00	1984082.95	1424497.06	

Weatherford International Ltd.

WFT Plan Report - X & Y's



Weatherford

Company: BMG	Date: 4/19/2011	Time: 14:27:09	Page: 2
Field: Rio Arriba Co. NM (Nad 83)	Co-ordinate(NE) Reference:	Well: Canada Ojitos #48H, Grid North	
Site: Canada Ojitos #48H	Vertical (TVD) Reference:	SITE 7581.0	
Well: Canada Ojitos #48H	Section (VS) Reference:	Well (0.00N,0.00E,40.41Azi)	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
5000.00	8.97	40.41	4990.22	100.97	85.96	132.60	0.00	1984094.81	1424507.17	
5100.00	8.97	40.41	5088.99	112.83	96.06	148.18	0.00	1984106.68	1424517.27	
5200.00	8.97	40.41	5187.77	124.70	106.16	163.77	0.00	1984118.55	1424527.37	
5300.00	8.97	40.41	5286.55	136.57	116.26	179.35	0.00	1984130.41	1424537.47	
5400.00	8.97	40.41	5385.33	148.43	126.36	194.94	0.00	1984142.28	1424547.57	
5500.00	8.97	40.41	5484.11	160.30	136.47	210.52	0.00	1984154.15	1424557.68	
5600.00	8.97	40.41	5582.89	172.16	146.57	226.10	0.00	1984166.01	1424567.78	
5700.00	8.97	40.41	5681.66	184.03	156.67	241.69	0.00	1984177.88	1424577.88	
5800.00	8.97	40.41	5780.44	195.90	166.77	257.27	0.00	1984189.74	1424587.98	
5900.00	8.97	40.41	5879.22	207.76	176.87	272.86	0.00	1984201.61	1424598.08	
5921.04	8.97	40.41	5900.00	210.26	179.00	276.13	0.00	1984204.11	1424600.21	1700 FWL
6000.00	6.60	40.41	5978.23	218.40	185.93	286.82	3.00	1984212.25	1424607.14	
6100.00	3.60	40.41	6077.82	225.16	191.69	295.71	3.00	1984219.01	1424612.90	
6110.20	3.29	40.41	6088.00	225.63	192.08	296.32	3.00	1984219.48	1424613.29	Mancos
6200.00	0.60	40.41	6177.75	227.95	194.06	299.36	3.00	1984221.80	1424615.27	
6219.88	0.00	40.41	6197.63	228.03	194.13	299.47	3.00	1984221.87	1424615.34	Hold
6300.00	0.00	40.41	6277.74	228.03	194.13	299.47	0.00	1984221.87	1424615.34	
6400.00	0.00	40.41	6377.74	228.03	194.13	299.47	0.00	1984221.87	1424615.34	
6500.00	0.00	40.41	6477.74	228.03	194.13	299.47	0.00	1984221.87	1424615.34	
6600.00	0.00	40.41	6577.74	228.03	194.13	299.47	0.00	1984221.87	1424615.34	
6688.63	0.00	40.41	6666.37	228.03	194.13	299.47	0.00	1984221.87	1424615.34	Build 8's
6700.00	0.91	40.41	6677.74	228.10	194.18	299.56	8.00	1984221.94	1424615.39	
6800.00	8.91	40.41	6777.30	234.61	199.73	308.11	8.00	1984228.45	1424620.94	
6900.00	16.91	40.41	6874.69	251.61	214.20	330.43	8.00	1984245.45	1424635.41	
7000.00	24.91	40.41	6968.03	278.76	237.32	366.10	8.00	1984272.61	1424658.53	
7100.00	32.91	40.41	7055.50	315.54	268.63	414.40	8.00	1984309.38	1424689.84	
7200.00	40.91	40.41	7135.39	361.23	307.53	474.41	8.00	1984355.08	1424728.74	
7244.37	44.46	40.41	7168.00	384.13	327.03	504.48	8.00	1984377.98	1424748.24	Niobrara A
7300.00	48.91	40.41	7206.15	414.94	353.26	544.95	8.00	1984408.79	1424774.47	
7339.04	52.03	40.41	7231.00	437.87	372.78	575.06	8.00	1984431.72	1424793.99	Niobrara B
7400.00	56.91	40.41	7266.41	475.63	404.93	624.65	8.00	1984469.48	1424826.14	
7500.00	64.91	40.41	7314.99	542.11	461.53	711.97	8.00	1984535.96	1424882.74	
7600.00	72.91	40.41	7350.95	613.10	521.96	805.19	8.00	1984606.94	1424943.17	
7625.49	74.95	40.41	7358.00	631.74	537.84	829.68	8.00	1984625.59	1424959.05	Niobrara C
7700.00	80.91	40.41	7373.58	687.20	585.05	902.51	8.00	1984681.05	1425006.26	
7751.13	85.00	40.41	7379.85	725.83	617.94	953.25	8.00	1984719.68	1425039.15	Hold
7800.00	85.00	40.41	7384.10	762.90	649.50	1001.93	0.00	1984756.75	1425070.71	
7900.00	85.00	40.41	7392.82	838.75	714.08	1101.55	0.00	1984832.60	1425135.29	
7951.13	85.00	40.41	7397.28	877.54	747.10	1152.48	0.00	1984871.38	1425168.31	Build 8's
8000.00	88.91	40.41	7399.87	914.69	778.73	1201.28	8.00	1984908.53	1425199.94	
8013.63	90.00	40.41	7400.00	925.06	787.56	1214.91	8.00	1984918.91	1425208.77	
8085.77	92.16	40.41	7398.64	979.98	834.31	1287.03	3.00	1984973.83	1425255.52	Hold
8100.00	92.16	40.41	7398.10	990.81	843.53	1301.25	0.00	1984984.66	1425264.74	
8200.00	92.16	40.41	7394.33	1066.90	908.31	1401.18	0.00	1985060.75	1425329.52	
8300.00	92.16	40.41	7390.55	1142.99	973.08	1501.11	0.00	1985136.84	1425394.29	
8400.00	92.16	40.41	7386.77	1219.08	1037.86	1601.04	0.00	1985212.93	1425459.07	
8500.00	92.16	40.41	7383.00	1295.17	1102.64	1700.96	0.00	1985289.02	1425523.85	
8600.00	92.16	40.41	7379.22	1371.26	1167.41	1800.89	0.00	1985365.11	1425588.62	
8700.00	92.16	40.41	7375.44	1447.35	1232.19	1900.82	0.00	1985441.20	1425653.40	
8800.00	92.16	40.41	7371.67	1523.44	1296.97	2000.75	0.00	1985517.29	1425718.18	
8900.00	92.16	40.41	7367.89	1599.53	1361.74	2100.68	0.00	1985593.38	1425782.95	
9000.00	92.16	40.41	7364.12	1675.62	1426.52	2200.61	0.00	1985669.47	1425847.73	
9100.00	92.16	40.41	7360.34	1751.71	1491.30	2300.54	0.00	1985745.56	1425912.51	

Weatherford International Ltd.

WFT Plan Report - X & Y's



Weatherford

Company: BMG Field: Rio Arriba Co, NM (Nad.83) Site: Canada Ojitos #48H Well: Canada Ojitos #48H Wellpath: -1	Date: 4/19/2011 Time: 14:27:09 Page: 3 Co-ordinate(NE) Reference: Well: Canada Ojitos #48H, Grid North Vertical (TVD) Reference: SITE 7581.0 Section (VS) Reference: Well (0.00N,0.00E,40.41Azi). Survey Calculation Method: Minimum Curvature Db: Sybase
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Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
9200.00	92.16	40.41	7356.56	1827.80	1556.07	2400.46	0.00	1985821.65	1425977.28	
9300.00	92.16	40.41	7352.79	1903.89	1620.85	2500.39	0.00	1985897.74	1426042.06	
9400.00	92.16	40.41	7349.01	1979.99	1685.63	2600.32	0.00	1985973.83	1426106.84	
9500.00	92.16	40.41	7345.23	2056.08	1750.40	2700.25	0.00	1986049.92	1426171.61	
9600.00	92.16	40.41	7341.46	2132.17	1815.18	2800.18	0.00	1986126.01	1426236.39	
9700.00	92.16	40.41	7337.68	2208.26	1879.96	2900.11	0.00	1986202.10	1426301.17	
9800.00	92.16	40.41	7333.91	2284.35	1944.73	3000.04	0.00	1986278.19	1426365.94	
9900.00	92.16	40.41	7330.13	2360.44	2009.51	3099.97	0.00	1986354.28	1426430.72	
10000.00	92.16	40.41	7326.35	2436.53	2074.28	3199.89	0.00	1986430.37	1426495.49	
10100.00	92.16	40.41	7322.58	2512.62	2139.06	3299.82	0.00	1986506.46	1426560.27	
10200.00	92.16	40.41	7318.80	2588.71	2203.84	3399.75	0.00	1986582.55	1426625.05	
10300.00	92.16	40.41	7315.02	2664.80	2268.61	3499.68	0.00	1986658.65	1426689.82	
10400.00	92.16	40.41	7311.25	2740.89	2333.39	3599.61	0.00	1986734.74	1426754.60	
10500.00	92.16	40.41	7307.47	2816.98	2398.17	3699.54	0.00	1986810.83	1426819.38	
10600.00	92.16	40.41	7303.70	2893.07	2462.94	3799.47	0.00	1986886.92	1426884.15	
10700.00	92.16	40.41	7299.92	2969.16	2527.72	3899.39	0.00	1986963.01	1426948.93	
10800.00	92.16	40.41	7296.14	3045.25	2592.50	3999.32	0.00	1987039.10	1427013.71	
10900.00	92.16	40.41	7292.37	3121.34	2657.27	4099.25	0.00	1987115.19	1427078.48	
11000.00	92.16	40.41	7288.59	3197.43	2722.05	4199.18	0.00	1987191.28	1427143.26	
11100.00	92.16	40.41	7284.81	3273.52	2786.83	4299.11	0.00	1987267.37	1427208.04	
11200.00	92.16	40.41	7281.04	3349.61	2851.60	4399.04	0.00	1987343.46	1427272.81	
11300.00	92.16	40.41	7277.26	3425.70	2916.38	4498.97	0.00	1987419.55	1427337.59	
11400.00	92.16	40.41	7273.48	3501.79	2981.15	4598.90	0.00	1987495.64	1427402.36	
11500.00	92.16	40.41	7269.71	3577.88	3045.93	4698.82	0.00	1987571.73	1427467.14	
11600.00	92.16	40.41	7265.93	3653.97	3110.71	4798.75	0.00	1987647.82	1427531.92	
11700.00	92.16	40.41	7262.16	3730.06	3175.48	4898.68	0.00	1987723.91	1427596.69	
11800.00	92.16	40.41	7258.38	3806.15	3240.26	4998.61	0.00	1987800.00	1427661.47	
11900.00	92.16	40.41	7254.60	3882.25	3305.04	5098.54	0.00	1987876.09	1427726.25	
12000.00	92.16	40.41	7250.83	3958.34	3369.81	5198.47	0.00	1987952.18	1427791.02	
12021.90	92.16	40.41	7250.00	3975.00	3384.00	5220.35	0.00	1987968.85	1427805.21	Pbhl

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	Latitude Deg Min Sec	Longitude Deg Min Sec
1700 FWL			5900.00	210.26	179.00	1984204.11	1424600.21	36 27 3.043 N	106 59 1.858 W
Pbhl			7250.00	3975.00	3384.00	1987968.85	1427805.21	36 27 40.510 N	106 58 22.973 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
3900.00	3900.00	9.625	12.250	9 5/8"
8013.63	7400.00	7.000	8.750	7"

Annotation

MD ft	TVD ft	
4000.00	4000.00	Nudge
4298.85	4297.63	Hold
5921.04	5900.00	1700 FWL/Drop
6219.88	6197.62	Hold
6688.63	6666.37	Build 8's

Weatherford International Ltd.

WFT Plan Report - X & Y's



Company: BMG	Date: 4/19/2011	Time: 14:27:09	Page: 4
Field: Rio Arriba Co, NM (Nad 83)	Co-ordinate(NE) Reference:	Well: Canada Ojitos #48H, Grid North	
Site: Canada Ojitos #48H	Vertical (TVD) Reference:	SITE 7581.0	
Well: Canada Ojitos #48H	Section (VS) Reference:	Well (0.00N,0.00E,40.41Azi)	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Annotation

MD ft	TVD ft	
7751.13	7379.85	Hold
7951.13	7397.28	Build 8's
8013.63	7400.00	Lp/Build 3's
8085.77	7398.64	Hold
12021.90	7250.00	Pbhl

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
6110.20	6088.00	Mancos		0.00	0.00
7244.37	7168.00	Niobrara A		0.00	0.00
7339.04	7231.00	Niobrara B		0.00	0.00
7625.49	7358.00	Niobrara C		0.00	0.00