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RCVD JAN 27'12

OIL CONS. DIV. /

FORM APPROVED OMB No 1004-0137 Expires July 31, 2010

Form 3160-3 (August 2007)

NOV 07 2011

UNITED STATES

DEPARTMENT OF THE INTERIOR armington reid Office

BUREAU OF LAND MANAGEMENT armington reid Office

NM-32124

The state of the interior of the indian, Allote or Tribe Name

1 6. If Indian, Allote or Tribe Name APPLICATION FOR PERMIT TO DRILL OR REENTER 7 If Unit or CA Agreement, Name and No. **✓** DRILL REENTER la. Type of work: 8. Lease Name and Well No. ✓ Oil Well Gas Well Other ✓ Single Zone Multiple Zone lb. Type of Well: Goood Times A06-2310 01H 9. API Well No Name of Operator Encana Oil & Gas (USA) Inc. 3b Phone No. (include area code) 10 Field and Pool, or Exploratory 3a. Address 370 17th Street, Suite 1700 720-876-3989 Denver, CO 80202 South Bisti-Gallup (5860) 4. Location of Well (Report location clearly and in accordance with any State requirements\*) 11. Sec., T. R. M. or Blk. and Survey or Area At surface 920' FNL and 215' FEL Section 6 T23N, R10W A Section 6, T23N, R10W NMPM At proposed prod. zone 920' FNL and 330' FWL Section 6, T23N, R10W  $\mathcal{D}$  LO+  $\mathcal{A}$ 12 County or Parish 13. State 14. Distance in miles and direction from nearest town or post office\* San Juan NM +/- 39 miles southwest of Farmington, NM 15 Distance from proposed\* BHL is 330' from west lease line 17. Spacing Unit dedicated to this well 16 No. of acres in lease 640 acres property or lease line, ft.
(Also to nearest drig. unit line, if any) NM-32124 636.72 acres 20 BLM/BIA Bond No. on file to nearest well, drilling, completed, applied for, on this lease, ft

Calgary 88 and 3 are 233' north of wellbore 18. Distance from proposed location\* 19. Proposed Depth 5745' TVD/ 8976' MD 22. Approximate date work will start\* Elevations (Show whether DF, KDB, RT, GL, etc.) 6562' GL, 6576' KB 02/01/2012 45 days 24. Attachments The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form: Bond to cover the operations unless covered by an existing bond on file (see 1. Well plat certified by a registered surveyor. Item 20 above). 2. A Drilling Plan. 3 A Surface Use Plan (if the location is on National Forest System Lands, the 5 Operator certification SUPO must be filed with the appropriate Forest Service Office) Such other site specific information and/or plans as may be required by the 25 Signature Name (Printed/Typed) Brenda R. Linster Title Regulatory Advisor Approved by (Signation Name (Printed/Typed) Office Title Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

## SEE ATTACHED FOR CONDITIONS OF APPROVAL

This action is subject to technical and procedural review pursuant to 43 CFR 3165 5 and appeal pursuant to 43 CFR 3165.4

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".

Hold C104

for Directional Survey and "As Drilled" plat

\*(Instructions on page 2) Review & fellow

nmoco 19.15.16.10.62

BLM'S APPROVAL OR ACCEPTANCE OF THIS S-bmit connected ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING AND OTHER COMPLY WITH 19 15 16.15

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District I 1625 N. French Orive, Hobbs. NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 District II 811 S. First Street, Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 District III 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 District IV 1220 S. St. Francis Orive, Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico NOV 07 2011 Energy, Minerals & Natural Resources Department 2011

Form C-102 Revised August 1, 2011

OIL CONSERVATION DIVISION Management.

1220 South St. Francis Daire

Santa Fe, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

30-045-35	 *Pool Code 5860	°Pool Na SOUTH BISTI	·· <del>·</del>
*Property Code 39048		perty Name MES A06-2310	Well Number 01H
'OGRID No. 282327		Frator Name & GAS (USA) INC.	Elevation

<sup>10</sup> Surface Location U. or int m. Section. Foot from the North/South The East/West line Feet from the 6 23N 10W 920 NORTH A 215 **EAST** SAN JUAN 11 Bottom Hole Location If Different From Surface UL or lot no Lot Ion Feat from the . East/Mest line D 6 NES. 10W 920 NORTH 330 WEST SAN JUAN dotat or Infill U Dedicated Acres M Consolidation Code <sup>25</sup>Order No. 638.54 Acres (Entire Section)

Mutulder 11/8/11 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	1.1.	N89 *39 36 E 2	582.44 (MEASURED)	N89 33 56 E 2623	1.70 (MEASURE	(D)	
		N89 *33 E 25	93.24 (RECORD)	N89 "33 E 2622	.84 ' (RECORD)		17 OPERATOR CERTIFICATION I hereby certify that the information contained
(OH	į	0 LOT	LOT 3	LOT 2	LOT 1	02	herein is true and complete to the best of my knowledge and belief, and that this organization sither owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right
(несояр)	ا		584°37.4¥	1 4670B'			to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest arms a voluntary pooling
2632.74"(	1	330' Start 6	Completed Interval 0' FNL 663' FEL	Gallup Penetral 920' FNL 30	ion Point 4' FEL	215'	or working interest, or to a voluntary politing agreement or a compulsory pooling/order neretofore enterled by the division.
NO1 .11 E 26.	18'40'E 2629.80 (MEASUPED)	LÖT 5	BOTTOM-HOLE LAT: 35.25005 'N LONG: 107.94414 'W DATUM: NAD1927 LAT: 35.25007 'N LONG: 107.94476 'W DATUM: NAD1983	SUFFACE LOCATION LAT: 35.26016 'N. LONG: 107.92829 W DATUM: NAD1927 LAT: 36.26017 'N LONG: 107.92891 'W DATUM: NAD1983		(RECORD) NO 148 E 2618.88 O 151 21 E 2616.63	Signature Brenda R. Linster Printed Name brenda.linster@encana.com F-mail Address
(0:	JAED) NO1			<b>5</b> — —			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.  Date of Survey: JULY 28, 2011  Signature and Seal of Professional Surveyor
2633.40° (RECORD)	2630.37 (MEASURED)	6	<del> </del>	<u> </u>		2629.44 (RECORD)	(F) (15269) (F) (F)
NO1 .11 E	3, 20, 51, 10N	LOT 7	616.24* (RECORD)	S89 '24 W 263	6.04 (RECORD		
			611.99 (MEASURED)	S89 '25 '04' W 26			

SHEET A. .....

# Directions from the Intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM to Encana Oil & Gas (USA) Inc. Good Times A06-2310 01H 920' FNL & 215' FEL. Section 6, T23N, R10W, N.M.P.M., San Juan County, NM

#### Latitude: 36.26017°N Longitude: 107.92891°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 27.9 miles to State Hwy #57 @ Mile Marker 123.4;

Go right (South-westerly) on State Hwy #57 for 3.1 miles to fork in road;

Go left (South-westerly) remaining on State Hwy #57 for 2.6 miles to County Road #7635;

Go right (Westerly) on County Road #7635 for 0.9 miles to fork in road;

Go left (South-westerly) remaining on County Road #7635 for 1.4 miles to fork in road;

Go right (North-westerly) exiting County Road #7635 for 0.7 miles to fork in road;

Go left (South-westerly) for 0.7 miles to fork in road;

Go left which is straight (South-westerly) for 0.7 miles to fork in road;

Go right (South-westerly) for 0.7 miles to fork in road;

Go left which is straight (Westerly) for 0.1 miles to fork in road;

Go left (Southerly) for 0.1 miles to fork in road;

Go left (Southerly) for 0.1 miles to new access on left-hand side of existing roadway which continues for 95' to staked location.

SHL: SENENE Section 6, T23N, R10W

920 FNL and 215 FEL

BHL: SWNWNW Section 6, T23N, R10W

920 FNL and 330 FWL San Juan County, New Mexico Lease Number: NM-32124

# Encana Oil & Gas (USA) Inc. Drilling Plan

#### 1. ESTIMATED TOPS OF GEOLOGICAL MARKERS (TVD)

The estimated tops of important geologic markers are as follows:

<b>Formation</b>	Depth (TVD)
Ojo Alamo	156'
Kirtland	300'
Fruitland Coal	575'
Pictured Cliffs	936'
Lewis	1125'
Cliffhouse	1786'
Menefee	2310'
Point Lookout	3338'
Mancos	3540'
Gallup	4302'
Upper Carlile	4809'
Juana Lopez	4916'
Lower Carlile	5034'
Greenhorn	5271'
Graneros	5327'
Dakota	5367'
Morrison	5647'

The referenced surface elevation is 6562', KB 6576'

# 2. ESTIMATED DEPTH OF POTENTIAL WATER, OIL, GAS, & OTHER MINERAL BEARING FORMATIONS

Substance	<u>Formation</u>	Depth (TVD)
Water	Ojo Alamo	156'
Gas	Fruitland Coal	575'
Gas	Pictured Cliffs	936'
Gas	Cliffhouse	1786'
Gas	Point Lookout	3338'
Oil/Gas	Mancos	3540'
Oil/Gas	Dakota	5367'

All shows of fresh water and minerals will be reported and protected.

#### 3. PRESSURE CONTROL

- a) Pressure control equipment and configuration will be designed to meet 2M standards.
- b) Working pressure on rams and BOPE will be 3,000 psi
- c) Function test and visual inspection of the BOP will be conducted daily and noted in the IADC Daily Drilling Report.
- d) The Annular BOP will be pressure tested to a minimum of 50 percent of its rated working pressure.

SHL: SENENE Section 6, T23N, R10W

920 FNL and 215 FEL

BHL: SWNWNW Section 6, T23N, R10W

920 FNL and 330 FWL San Juan County, New Mexico Lease Number: NM-32124

- e) Blind and Pipe Rams/BOP will be tested against a test plug to either 70 percent of the casings internal yield pressure or 100 percent of rated working pressure.
- f) Pressure tests are required before drilling out from under all casing strings set and cemented in place.
- g) BOP controls must be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned.
- h) BOP testing procedures and testing frequency will conform to Onshore Order No. 2.
- i) BOP remote controls shall be located on the rig floor at a location readily accessible to the driller. Master controls shall be on the ground at the accumulator and shall have the capability to function all preventers.
- The kill line shall be 2-inch minimum and contain two kill line valves, one of which shall be a check valve.
- The choke line shall be a 2-inch minimum and contain two choke line valves (2-inch minimum).
- 1) The choke and manifold shall contain two adjustable chokes.
- m) Hand wheels shall be installed on all ram preventers.
- n) Safety valves and wrenches (with subs for drill string connections) shall be available on the rig floor at all times.
- o) Inside BOP or float sub shall also be available on the rig floor at all times.

Proposed BOP and choke manifold arrangements are attached.

#### 4. CASING & CEMENTING PROGRAM

The proposed casing and cementing program has been designed to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use. The casing setting depth shall be calculated to position the casing seat opposite a competent formation which will contain the maximum pressure to which it will be exposed during normal drilling operations. All indications of useable water shall be reported.

#### a) The proposed casing design is as follows:

Casing	Depth	Hole Size	Csg Size	Weight	Grade
Conductor	0-60'	26"	20"	94#	H40, STC New
Surface	0'-500'	17 1/2"	13 3/8"	48#	H40, STC New
Intermediate	0'-3800'	12 1/4"	9 5/8"	40#	J55, STC New
Production Liner	3600'-8976'	8 1/2"	5 1/2"	17#	B80*, LTC New

	Casing String			Casing Strength Properties			Minimum Design Factors		
Size	Weight (lb/ft)	Grade	Connection	Collapse (psi)	Burst (psi)	Tensile (1000lb)	Collapse	Burst	Tension
13 3/8"	48	H40	STC	740	1730	322	1.125	1.1	1.5
9 5/8"	40	J55	STC	2570	3950	452	1.125	1.1	1.5
5 1/2"	17	B80	LTC	6290	7740	320	1.125	1.1	1.5

<sup>\*</sup>B80 pipe specifications are attached

Casing design is subject to revision based on geologic conditions encountered.

All casing strings below the conductor shall be pressure tested to 0.22 psi per foot of casing string length or 1,500 psi, whichever is greater, but not to exceed 70 percent of the minimum internal yield. If pressure declines more than 10 percent in 30 minutes, corrective action shall be taken.

SHL: SENENE Section 6, T23N, R10W

920 FNL and 215 FEL

BHL: SWNWNW Section 6, T23N, R10W

920 FNL and 330 FWL San Juan County, New Mexico Lease Number: NM-32124

b) The proposed cementing program is as follows:

Top plugs shall be used to reduce contamination of cement by displacement fluid. A bottom plug or other acceptable technique, such as a pre-flush fluid, inner string cement method, etc. shall be utilized to help isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry.

Casing	Depth	Cement Volume (sacks)	Cement Type&Yield	Designed TOC	Centralizers
Conductor	60'	80sk	Redi-mix Construction Grade Cement	Surface	None
Surface	500'	Lead: 130sk Tail: 100sk	Lead: Varicem Poz Cmt 1% Cal-Seal 12.7ppg, 1.78cuft/sk Tail: Type III Prem Plus 6% Salt 13.5ppg 1.77cuft/sk	Surface	1 turbolizer per joint on bottom 3 joints
Intermediate	3800,	50% open hole excess Lead: 1079sk Tail: 176sk	Lead: Fillseal Poz Cmt 1% foam 13ppg, 1.43cuft/sk Tail: HalCem Class H 1% foam 13ppg 1.43cuft/sk	Surface	1 per joint for bottom 3 joints, 1 every 3 joints for remaining joints
Production Liner*	3600'- 8976'	None – External casing packers	N/A	N/A	N/A

<sup>\*</sup>Production liner clarification: Utilizing external swell casing packer system for zonal isolation will not use cement in the production liner.

Actual volumes will be calculated and determined by conditions onsite. All cement slurries will meet or exceed minimum BLM and New Mexico Oil Conservation Division requirements. Slurries used will be the slurries listed above or equivalent slurries depending on service provider selected. Cement yields may change depending on slurries selected.

All waiting on cement times shall be adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.  $\rho m \rho c \rho = 10$ 

#### 5. WELL PLAN & DIRECTIONAL DRILLING PROGRAM

The proposed well will be drilled in two phases. A pilot hole will be drilled in the first phase, followed by kicking off a horizontal lateral in the existing wellbore in the second phase. The intent of drilling a pilot hole is to obtain open hole log and core data. The intent of the second phase of the well is to plug back the pilot hole with cement to the kick off point. After plugging back, the plan is to drill a horizontal lateral from the kick off point in the existing wellbore to the proposed bottom hole location.

Directional plans are attached.

SHL: SENENE Section 6, T23N, R10W

920 FNL and 215 FEL

BHL: SWNWNW Section 6, T23N, R10W

920 FNL and 330 FWL San Juan County, New Mexico Lease Number: NM-32124

Well Phase	Description	Proposed Depth (TVD/MD)	Formation
1	Vertical Pilot Hole	5747'/5747'	Morrison
2	Horizontal Lateral	4549'/8976'	Gallup

#### **Proposed Plug Back Procedure:**

TOPS:	TVD
KOP	3976'
Graneros Shale	5327'
Dakota	5367'

Set 2 cement plugs in 8 ½" hole Plug A: Bottom plug over Dakota

Plug B: Kick plug at KOP

#### Plug A

1. TIH to TD of vertical pilot hole at 5747'

2. Spot 400' cement plug from 5347'- 5747'

a. 135sx of Class A cement (1.18ft<sup>3</sup>/sk yield)

b. Spot tuned spacer

3. Pull uphole and reverse out

4. TIH and tag plug, proceed when cement is solid

5. Fill hole and move uphole to spot kick plug

#### Plug B

- 1. Spot 300' kick plug from 3876' 4176'
  - a. 91sx of Class A cement with salt (1.3ft<sup>3</sup>/sk yield)
  - b. Spot tuned spacer
- 2. Pull uphole and reverse out
- 3. Pump bottoms up 2 times, pull uphole
- 4. Tag plug, drill ahead to KOP when cement is solid

#### 6. DRILLING FLUIDS PROGRAM

#### a) Phase 1, Vertical Pilot Hole:

Hole Size (in)	TVD (ft)	Mud Type	Density (lb/gal)	Viscosity (sec/qt)	Fluid Loss (cc)
26"	0-60'	Fresh Water	8.3-9.2	38-100	4-28
17 1/2"	0-500'	Fresh Water	8.4-8.6	60-70	NC
12 1/4"	500-3800'	Fresh Water LSND	8.5-8.8	40-50	8-10
8 1/2"	3800-5747'	Fresh Water LSND	8.5-8.8	40-50	8-10

#### b) Phase 2, Kick off to Horizontal Lateral:

Hole Size (in)	TVD (ft)	Mud Type	Density (Ib/gal)	Viscosity (sec/qt)	Fluid Loss (cc)
8 1/2"	3976' (KOP)- 8976'	Synthetic Oil Based Mud	8.6-9.0	15-25	··· <15

SHL: SENENE Section 6, T23N, R10W

920 FNL and 215 FEL

BHL: SWNWNW Section 6, T23N, R10W

920 FNL and 330 FWL San Juan County, New Mexico Lease Number: NM-32124

c) There will be sufficient mud on location to control a blowout should one occur. Mud flow and volume will be monitored both visually and with electronic pit volume totalizers. Mud tests shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

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d) A closed-loop system will be used to recover drilling fluid and dry cuttings in both phases of the well and on all hole intervals, including fresh water and oil-based operations. Above-ground tanks will be utilized to hold cuttings and fluids for rig operations. A frac tank will be on location to store fresh water. Waste will be disposed of properly at an EPA-approved hazardous waste facility. Fresh water cuttings will be disposed of at Basin Disposal, Inc. and/or Industrial Ecosystems, Inc. The location will be lined in accordance wit the Surface Use Plan of Operations.

#### 7. TESTING, CORING and LOGGING

a) Drill Stem Testing - None anticipated

- b) Coring Obtain core starting in the Mancos formation. Specific cored intervals will be determined real time by onsite geologists.
- c) Mud Logging Mud loggers will be on location from Surface Casing to TD.
- d) Logging See Below

Open Hole:

Triple combo with Spectral Gamma TD to surface casing Specialty logs will be decided real time by onsite geologists

Cased Hole:

CBL/CCL/GR/VDL will be run as needed for perforating control

#### 8. ABNORMAL PRESSURES & HYDROGEN SULFIDE

The anticipated bottom hole pressure is +/- 2,689 psi based on a 9.0 ppg at 5747' TVD of the vertical pilot hole. No abnormal pressure or temperatures are anticipated.

No hydrogen sulfide gas is anticipated, however, if  $H_2S$  is encountered, the guidelines in Onshore Order No. 6 will be followed.

#### 9. ANTICIPATED START DATE AND DURATION OF OPERATIONS

Drilling is estimated to commence on March 1, 2012. It is anticipated that completion operations will begin within 30 days after the well has been drilled depending on fracture treatment schedules with various pumping service companies.

It is anticipated that the drilling of this well will take approximately 45 days.

#### 10. NOTIFICATION REQUIREMENTS & OTHER ITEMS

- a) The spud date will be reported orally to the Authorized Officer within 24 hours prior to spudding. Written notification via a Sundry Notice (Form 3160-5) will be submitted to the Authorized Officer within 5 days of spudding.
- b) The Authorized Officer will be notified at least 24 hours in advance of BOP pressure tests.

SHL: SENENE Section 6, T23N, R10W

920 FNL and 215 FEL

BHL: SWNWNW Section 6, T23N, R10W

920 FNL and 330 FWL San Juan County, New Mexico Lease Number: NM-32124

> c) The Authorized Officer will be notified at least 24 hours in advance of running and cementing casing strings.

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- d) A Sundry Notice (Form 3160-5) will be submitted to the Authorized Officer within 30 days of setting each string of casing. Information will include the size, grade, weight of casing set, hole size, setting depth, amounts and type of cement used, whether cement circulated to the top of the cement behind the casing, depth of cementing tools used, casing test method and results, and the date the work was done.
- e) Should the well be successfully completed for production, the Authorized Officer will be notified orally within 24 hours of placing the well on production. Written notification via a Sundry Notice (Form 3160-5) will be submitted to the Authorized Officer within 5 days of placing on production.
- f) Whether the well is completed as a dry hole or as a producer, a Well Completion and Recompletion Report and Log (Form 3160-4) will be submitted no later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3160. One copy of all logs, core descriptions, core analysis, well-test data, geologic summaries, sample descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. Samples (cuttings, fluids, and/or gases) will be submitted when requested by the Authorized Officer.
- g) Starting with the month in which operations commence and continuing each month until the well is physically plugged and abandoned, this well will be reported on Form 3160-6, Monthly Report of Operations. Reports will be filed by the 10<sup>th</sup> day of the second month following the operation month.
- h) All off-lease storage, off-lease measurement, commingling on-lease or off-lease will have prior written approval from the Authorized Officer.
- i) Oil and gas measurement facilities will be installed on the well location. Oil and gas meters will be calibrated in place prior to any deliveries. The Authorized Officer will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the Authorized Officer. All meter measurement facilities will conform to the API standards for liquid hydrocarbons and to AGA standards for natural gas measurement.
- j) A site facility diagram as required by 43 CFR 3162.7-5(d) will be submitted within 60 days after measurement facilities are installed. Any venting or flaring of gas will be done in accordance with Notice to Lessees (NTL-4A) and may need prior approval from the Authorized Officer.
- k) Minor Events will be reported on the Monthly Report of Operations and Production (Form 3160-6). All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in Notice to Lessee (NTL-3A) will be reported to the Authorized Officer. Major events will be reported verbally within 24 hours, followed by a written report within 15 days. Other than Major Events will be reported in writing within 15 days.

	~
-	
FNG: J Fox/ A	11/4/11

LOC: Sec 0	6-T24N-R10V luan	v		Er	icana N	latural Ga	ıs	encana.	ENG: J. Fox/ A.	11/4/11
WELL: Good	Times A06-2	310 01H			WELL S	UMMARY		natural gas	GLE: 6562 RKBE:	
MWD	OPEN HOLE		DEPTH				HOLE	CASING	MW	DEVIATION
LWD	LOGGING	FORM	TVD	MD			SIZE	SPECS	MUD TYPE	INFORMATION
		Nacimiento	60	60'			26	<b>20" 94#</b> 80sx Type I Neat 48.8ppg cmt	Fresh wtr 8 3-9 2	
Surveys After csg is run	None	Ojo Alamo Kirtland Shale	156 300		A COMPANY OF THE PARTY OF THE P		17 1/2	13 3/8" 48ppf H40 STC	Fresh wtr 8 4-8 6	Vertical <1°
	Mud logger onsite at spud		500	500	. E			TOC @ surface		
Surveys every 500'		Fruitland Coal  Pictured Cliffs Ss Lewis Shale  Cliffhouse Ss Menefee Fn Point Lookout Ss Mancos Sh	575 936 1125 1786 2310 3338 3540 3800	3800			12 1/4	9 5/8" 40ppf J55 STC	Fresh Wtr 8 5-8 8	Vertical <1º
Surveys every 500' Gyro at CP MWD Gamma Directional	Triple Combo	Gallup Top horz target Prodelta Gallup Upper Carlile Shale Juana Lopez Sh Lower Carlile Sh Greenhorn LS Graneros Sh	4302 4549 4616 4809 4916 5034 5271 5327	4881			8 1/2	5 1/2" 17ppf I/L80 LTC  Running external swellable csg packers for isolation of prod string  4095' Lateral	Fresh Wtr LSND-in pilot 8 5-8 8 Switch to OBM at K/O 8 6-9 0	KOP 3976 10 deg/100' 7deg updip 4513'TVD TD = 8976' MD
NOTES:		Graneros Sh Dakota Grp Morrison Pilot Hole TD	5327 5367 5647 <b>5747</b>					•		

- 1) Drill with 26" bit to 60', set 20" 94# conductor pipe
- 2) Drill surface to 500', R&C 13 3/8" casing
- 3) N/U BOP and surface equipment4) Drill to 4400', 12 1/4" hole size
- 5) Run OH logs, R&C 9 5/8" casing, circ cmt 50' into sur csg shoe
- 6) Drill 8 1/2" hole to core point, core Gallup/Niobrara & possibly Dakota, confirm coring details
  7) RIH with 8 1/2" bit to drill 150' rathole, run OH logs
- 8) Plugback to 3800' with cmt
- 9) PU directional tools and K/O cmt plug and start curve at 10deg/100' build rate
- 10)Drill curve to 20-30deg then swtich over to OBM system
  13)Land at 90deg, drill 4095' lateral to 8976', run 5 1/2" liner with external swellable csg packers



Encana Oil & Gas Project: San Juan Co., NM (NAD83) Site: Sec.6-T23N-R10W Well: Good Times A06-2310 01H Wellbore: Wellbore #1 Design: Design #1 Lat: 36,260170 Long: -107.928910 Pad GL: 6562.00 KB: WELL @ 6576.00usft



PROJECT DETAILS: San Juan Co., NM (NAD83)

Geodetic System: US State Plane 1983 Datum: North American Datum 1983 Ellipsoid: GRS 1980 Zone: New Mexico Western Zone

System Datum: Mean Sea Level

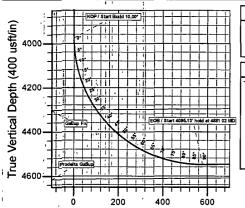
Azimuths to True North Magnetic North: 9,879

Magnetic Field Strength: 50402,7snT Dip Angle: 63.019 Date: 10/10/2011 Model: IGRF2010

1 1 1	WELL DETA	LS: Good Times A06-231	0 01H	
+N/-S 0.00 +E/-W 0.00		nd Level: 6562.00 sting Latittude 4.440 36.260170	Longitude -107.928910	Slot

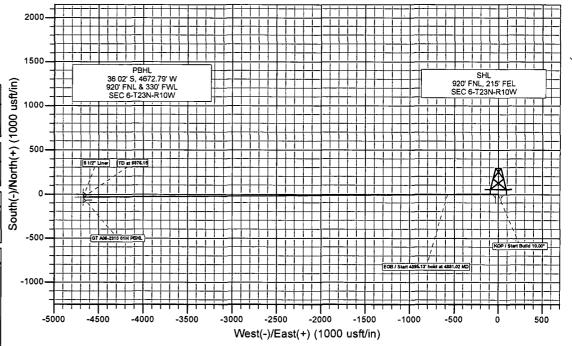
٠.	WELLB	ORE	TARGET	DETAILS	(LA	T/LONG)	

TVD 4513.22 +N/-S -36.02 +E/-W -4672.79 Latitude 36.260070 Longitude Shape -107.944760 Point Name GT A06-2310 01H PBHL



	CASING DETAILS								
TVD	MD	Name	Size						
500.00	500.00	13 3/8" Csg.	13-3/8						
3800.00	3800.00	9 5/8" Csg.	9-5/8						
4513.22	8976.15	5 1/2" Liner	5-1/2						

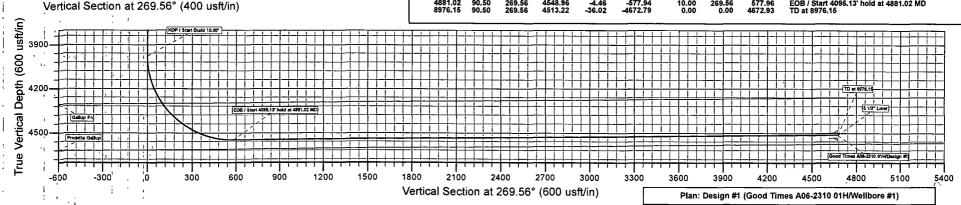
		FORMATION	TOP DETAILS
	TVDPath	MDPath	Formation
	156,00	156.00	Ojo Alamo Ss.
	300.00	300,00	Kirtland Shale
	575,00	575.00	Fruitland Coal
	936.00	936.00	Pictured Cliffs Ss.
	1125.00	1125.00	Lewis Shale
	1786.00	1786,00	Cliffhouse Ss.
	2310.00	2310.00	Menefee Fn.
i	3338.00	3338.00	Point Lookout Ss.
	3540.00	3540.00	Mancos Shale
	4301.12	4321.71	Gallup Fn.
	l		•



				_	SE	CTION DET	AILS		
MD 0.00 3976.02 4881.02	0.00 0.00 0.00 90.50	Azi 0.00 0.00 269,56	TVD 0.00 3976.02 4548.96	+N/-S 0.00 0.00 -4.46	+E/-W 0.00 0.00 -577.94	Dieg 0.00 0.00 10.00	TFace 0.00 0.00 269.56	VSect 0.00 0.00 577.96	Annotation  KOP / Start Build 10.00°  EOB / Start 4095.13' hold at 4881.02 MD
8976.15	90.50	269.56	4513.22	-36.02	-4672.79	0.00	0.00	4672.93	TD at 8976.15

Created By: Bret Wolford

Date: 20:58, October 10 2011





#### **Great White Directional**

Planning Report



EDMDBBW Database:

Company:

Encana Oil & Gas

Project:

San Juan Co., NM (NAD83)

Site: Well: Sec.6-T23N-R10W Good Times A06-2310 01H

Wellbore #1 Wellbore: Design: Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference: Survey Calculation Method:

Well Good Times A06-2310 01H WELL @ 6576 00usft WELL @ 6576.00usft

True

Minimum Curvature

Project San Juan Co., NM (NAD83)

Map System: Geo Datum: Map Zone:

US State Plane 1983

North American Datum 1983 New Mexico Western Zone

System Datum:

Mean Sea Level

Sec.6-T23N-R10W Site

Site Position:

From:

Lat/Long

Northing: Easting:

1,914,014.529 usft 2,694,914.440 usft Latitude:

Longitude:

36 260170 -107.928910

**Position Uncertainty:** 

0.00 usft

Slot Radius:

13-3/16"

**Grid Convergence:** 

-0 06 °

Well Good Times A06-2310 01H

**Well Position** 

+N/-S +E/-W 0 00 usft 0.00 usft

Northing: Easting:

1,914,014.529 usft 2,694,914.440 usft Latitude:

36.260170 -107.928910

**Position Uncertainty** 

0.00 usft

Wellhead Elevation:

Longitude: **Ground Level:** 

6,562 00 usft

Wellbore Wellbore #1 Magnetics **Model Name** Sample Date Declination Dip Angle Field Strength (nT) (°) (°) IGRF2010 10/10/11 50,403 9.87 63.01

Design	Design #1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	4,513.22	0.00	0 00	269.56	

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,976.02	0.00	0.00	3,976.02	0.00	0.00	0.00	0.00	0.00	0.00	
4,881.02	90.50	269.56	4,548.96	<b>-4 4</b> 6	-577.94	10 00	10 00	0 00	269.56	GT A06-2310 01H PE
8,976.15	90.50	269.56	4,513.22	-36.02	-4,672.79	0.00	0 00	0.00	0.00	GT A06-2310 01H PE

# encana. natural gas

#### **Great White Directional**

Planning Report



Database: Company: Project:

EDMDBBW

Encana Oil & Gas

San Juan Co., NM (NAD83) Sec.6-T23N-R10W

Site: Well:

Good Times A06-2310 01H

Wellbore:

Wellbore #1

TVD Reference: MD Reference:

North Reference:

Survey Calculation Method:

Local Co-ordinate Reference:

Well Good Times A06-2310 01H WELL @ 6576.00usft WELL @ 6576.00usft

True

Mınimum Curvature

sign:	Design #1	ner hancumannen er over enn			· · · · · · · · · · · · · · · · · · ·				
anned Survey									
Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Section (usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0,00	0.00	0 00	0.00	0.00
100.00 Ojo Alamo Ss	,0.00	0.00	100.00	0.00	0 00	0.00	0.00	0.00	0.00
156,00	0.00	0.00	156.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0,00	0.00	0.00	0.00	0.00
Kirtland Shal 300.00	<b>e</b> 0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8" Csg.					0.00			0.00	5.65
500.00	0.00	0.00	500.00	0 00	0.00	0.00	0.00	0.00	0.00
Fruitland Coa 575,00	al 0.00	0.00	575.00	0.00	0.00	0.00	0.00	0,00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0 00	0.00	0.00	0.00	0.00	0.00
800 00	0.00	0.00	800.00	0.00	0 00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
Pictured Cliff 936.00	o.00	0.00	936.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0 00	0.00	0.00	0 00	0.00	0.00
1,100 00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
Lewis Shale									
1,125.00 1,200.00	0.00 0.00	0.00 0.00	1,125.00 1,200.00	0.00 0 00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400 00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0 00	1,500.00	0.00	0.00	0 00	0.00	0.00	0.00
1,600 00	0 00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700 00 Cliffhouse S	0.00	0.00	1,700 00	0 00	0.00	0.00	0.00	0.00	0.00
1,786.00	o.00	0.00	1,786.00	0.00	0.00	0.00	0.00	. 0 00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00 2,200.00	0.00 0.00	0.00 0.00	2,100.00 2,200.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0,00 0,00	0.00 0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
Menefee Fn.			• -		-				-
2,310 00	0.00	0.00	2,310.00	0 00	0.00	0.00	0.00	0.00	0.00
2,400.00	0 00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500 00 2,600.00	0.00 0.00	0 00 0.00	2,500.00 2,600.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0,00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00 3,200.00	0.00 0.00	0 00 0.00	3,100.00 3,200.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00
3,300.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Point Lookou	ıt Ss.								
3,338.00	0.00	0.00	3,338.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00 Mancos Shal	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00



#### **Great White Directional**

Planning Report



Database: Company:

EDMDBBW Encana Oil & Gas

Project: San Juan Co., NM (NAD83)
Site: Sec.6-T23N-R10W

Well: Good Times A06-2310 01H

Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference:

TVD Reference:

North Reference: Survey Calculation Method: Well Good Times A06-2310 01H

WELL @ 6576.00usft WELL @ 6576.00usft

True

Mınimum Curvature

anned Survey									
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
3,540.00	0.00	0.00	3,540.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700 00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8" Csg.	0.00	0.00	2 222 22	0.00	0.00	0.00	0.00	0.00	0.00
3,800 00	0.00 0.00	0 00	3,800.00	0.00	0.00	0.00	0 00	0 00	0.00
3,900.00		0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
	Build 10.00°	0.00	0.070.00		2.00				
3,976.02	0.00	0.00	3,976.02	0.00	0.00	0.00	0.00	0.00	0.00
4,000 00	2.40	269.56	3,999.99	0.00	-0.50	0.50	10.00	10.00	0.00
4,050 00	7.40	269.56	4,049.79	-0.04	-4.77	4.77	10.00	10.00	0.00
4,100.00	12.40	269.56	4,099.03	-0.10	-13.36	13.36	10.00	10 00	0.00
4,150.00	17.40	269.56	4,147.34	-0.20	-26.21	26.21	10 00	10.00	0.00
4,200.00	22.40	269.56	4,194.34	-0 33	-43.22	43.22	10.00	10.00	0 00
4,250.00	27.40	269.56	4,239.68	-0.50	-64.27	64.27	10 00	10.00	0 00
4,300.00	32.40	269.56	4,283.01	-0.69	-89.18	89,18	10.00	10.00	0.00
Gallup Fn.									
4,321.71	34 57	269 56	4,301.12	-0.78	-101 16	101.16	10.00	10.00	0.00
4,350.00	37.40	269 56	4,324.00	-0.91	-117.78	117.78	10.00	10.00	0.00
4,400.00	42.40	269.56	4,362.35	-1.16	-149.84	149.84	10.00	10.00	0.00
4,450.00	47.40	269.56	4,397.76	-1.43	-185.12	185 12	10.00	10.00	0.00
4,500.00	52.40	269.56	4,429 96	-1.72	-223.35	223,35	10.00	10.00	0.00
4,550.00	57.40	269.56	4,458.70	-2.04	-264.24	264 25	10.00	10.00	0.00
4,600.00	62.40	269.56	4,483.77	-2 37	-307.48	307.49	10.00	10 00	0.00
4,650.00	67.40	269.56	4,504.97	-2 72	-352.74	352,75	10.00	10.00	0.00
4,700 00	72.40	269 56	4,522.15	-3.08	-399 68	399.69	10.00	10.00	0.00
4,750.00	77.40	269.56	4,535.17	-3.45	-447.94	447.95	10.00	10.00	0.00
4,800.00	82.40	269.56	4,543.94	-3.83	-497.15	497.16	10.00	10.00	0.00
4,850.00	87 40	269.56	4,548.39	-4.22	-546.93	546.95	10.00	10.00	0.00
EOB / Start	t 4095.13' hold at	4881.02 MD				•			
4,881.02		269.56	4,548 96	-4.46	-577.94	577 96	10 00	10.00	0.00
4,900.00	90.50	269.56	4,548.79	-4.60	-596.92	596.94	0.00	0.00	0.00
5,000.00	90.50	269.56	4,547.92	-5 37	-696.91	696.93	0.00	0 00	0.00
5,100.00	90.50	269.56	4,547.05	-6.14	-796.91	796,93	0.00	0.00	0.00
5,200.00	90.50	269,56	4,546.17	-6.91	-896.90	896,93	0.00	0 00	0.00
5,300.00	90.50	269.56	4,545.30	-7.68	-996.89	996.92	0.00	0.00	0.00
5,400 00	90.50	269.56	4,544.43	-8.46	-1,096.89	1,096.92	0.00	0.00	0.00
5,500.00	90.50	269.56	4.543.55	-9.23	-1,196,88	1,196,91	0 00	0.00	0.00
5,600.00	90.50	269.56	4,542.68	-10.00	-1,198.87	1,296.91	0.00	0.00	0.00
5,700.00	90.50	269.56	4,541.81	-10.77	-1,396.87	1,396.91	0.00	0.00	0.00
5,800.00	90 50	269 56	4,540.94	-11.54	-1,496.86	1,496.90	0.00	0.00	0.00
5,900.00	90.50	269.56	4,540.06	-12 31	-1,596.85	1,596.90	0.00	0.00	0.00
6,000.00	90.50	269 56	4,539.19	-13.08	-1,696.84	1,696.90	0.00	0.00	0.00
6,100.00	90.50	269.56	4,538.32	-13 85	-1,796.84	1,796,89	0.00	0 00	0.00
6,200.00	90.50	269.56	4,537.45	-14.62	-1,896.83	1,896.89	0.00	0.00	0.00
6,300.00	90,50	269.56	4,536.57	-15.39	-1,996.82	1,996.88	0.00	0.00	0.00
6,400.00	90.50	269.56	4,535 70	-16.16	-2,096.82	2,096.88	0.00	0.00	0.00
6,500.00	90.50	269.56	4,534.83	-16.93	-2,196.81	2,196.88	0.00	0.00	0.00
6,600.00		269.56	4,533.96	-17.71	-2,296.80	2,296,87	0,00	0.00	0 00
6,700.00	90.50	269.56	4,533.08	-18.48	-2,396.80	2,396.87	0.00	0.00	0.00
6,800.00		269.56	4,532.21	-19.25	-2,496 79	2,496,86	0.00	0.00	0.00
6,900.00	90.50	269 56	4,531.34	-20.02	-2,596.78	2,596 86	0.00	0.00	0.00
7,000.00		269.56	4,530.46	-20.79	-2,696.78	2,696.86	0.00	0.00	0.00
7,100.00	90.50	269.56	4,529.59	-21,56	-2,796.77	2,796 85	0.00	0,00	0,00

## encana.

#### **Great White Directional**

Planning Report



natural gas

Database: Company: Project:

Site:

EDMDBBW

Encana Oil & Gas San Juan Co., NM (NAD83)

Sec 6-T23N-R10W Good Times A06-2310 01H

Well: Good Times
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference:

Survey Calculation Method:

Well Good Times A06-2310 01H

WELL @ 6576.00usft WELL @ 6576.00usft

True

Minimum Curvature

nned Survey									
Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
7,200.00	90.50	269.56	4,528.72	-22.33	-2,896.76	2,896.85	0 00	0.00	0.00
7,300.00	90.50	269,56	4,527.85	-23,10	-2,996.76	2,996.85	0 00	0.00	0 00
7,400.00	90 50	269.56	4,526.97	-23.87	-3,096 75	3,096.84	0.00	0.00	0.00
7,500.00	90.50	269.56	4,526.10	-24.64	-3,196.74	3,196.84	0.00	0.00	0.00
7,600.00	90.50	269 56	4,525.23	-25.41	-3,296.74	3,296.83	0.00	0.00	0.00
7,700.00	90.50	269 56	4,524.36	-26.18	-3,396.73	3,396.83	0.00	0.00	0.00
7,800.00	90,50	269.56	4,523,48	-26.95	-3,496 72	3,496.83	0.00	0.00	0.00
7,900.00	90.50	269.56	4,522.61	-27.73	-3,596 72	3,596.82	0.00	0.00	0.00
8,000.00	90 50	269.56	4,521.74	-28.50	-3,696 71	3,696.82	0.00	0.00	0.00
8,100.00	90.50	269.56	4,520.87	-29 27	-3,796.70	3,796.82	0.00	0.00	0.00
8,200.00	90.50	269.56	4,519.99	-30.04	-3,896 70	3,896.81	0.00	0.00	0.00
8,300.00	90.50	269.56	4,519.12	-30.81	-3,996.69	3,996.81	0.00	0.00	0.00
8,400.00	90 50	269.56	4,518.25	-31.58	-4,096 68	4,096.80	0.00	0.00	0.00
8,500 00	90,50	269.56	4,517.37	-32.35	-4,196.68	4,196.80	0.00	0.00	0.00
8,600.00	90.50	269.56	4,516.50	-33.12	-4,296.67	4,296.80	0.00	0.00	0 00
8,700.00	90.50	269.56	4,515.63	-33.89	-4,396.66	4,396.79	0.00	0.00	0 00
8,800.00	90.50	269.56	4,514.76	-34.66	-4,496 65	4,496.79	0.00	0.00	0.00
8,900.00	90.50	269.56	4,513.88	-35.43	-4,596.65	4,596.78	0.00	0.00	0.00
TD at 8976.1	5 - 5 1/2" Liner -	GT A06-2310 0	1H PBHL						
8.976.15	90,50	269.56	4,513,22	-36 02	-4,672,79	4,672.93	0.00	0.00	0.00

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
GT A06-2310 01H PBHL - plan hits target cen - Point		0.00	4,513.22	-36.02	-4,672.79	1,913,983.119	2,690,241.613	36.260070	-107.944760

	Measured Depth (usft)	Vertical Depth (usft)		Casing Diameter	Hole Diameter	
			Name	(")	(")	
	500.00	500.00	13 3/8" Csg.	13-3/8	17-1/2	
	3,800.00	3,800.00	9 5/8" Csg.	9-5/8	12-1/4	
	8,976.15	4,513.22	5 1/2" Liner	5-1/2	6	



#### **Great White Directional**

Planning Report



natural gas

Database: **EDMDBBW** Company:

Encana Oil & Gas Project: San Juan Co., NM (NAD83) Site: Sec.6-T23N-R10W Well:

Good Times A06-2310 01H

Wellbore: Wellbore #1 Design #1 Design:

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference: Survey Calculation Method: Well Good Times A06-2310 01H

WELL @ 6576.00usft WELL @ 6576,00usft

Minimum Curvature

Formations							
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
	156.00	156.00	Ojo Alamo Ss.		-0.50	269,56	
	300.00	300.00	Kırtland Shale		-0.50	269.56	
	575.00	575.00	Fruitland Coal		-0.50	269.56	
	936.00	936.00	Pictured Cliffs Ss.		-0.50	269.56	
	1,125.00	1,125.00	Lewis Shale		-0.50	269,56	
	1,786.00	1,786.00	Cliffhouse Ss.		-0.50	269.56	
	2,310.00	2,310.00	Menefee Fn.		-0.50	269.56	
	3,338.00	3,338.00	Point Lookout Ss.		-0.50	269.56	
	3,540 00	3,540.00	Mancos Shale		-0.50	269.56	
	4,321.71	4,302.00	Gallup Fn.		-0.50	269.56	

Plan Annotation	ns [				
	Measured	Vertical	Local Coor	dinates	
	Depth	Depth	+N/-S	+E/-W	
	(usft)	(usft)	(usft)	(usft)	Comment
	3,976.02	3,976.02	0.00	0.00	KOP / Start Build 10.00°
	4,881.02	4,548.96	-4.46	-577.94	EOB / Start 4095.13' hold at 4881.02 MD
	8,976 15	4,513.22	-36.02	-4,672.79	TD at 8976.15

#### DRILLING CONDITIONS OF APPROVAL

Operator:

**Encana Oil & Gas** 

Lease No.:

NMNM-32124

Well Name:

Good Times A06-2310 #1H

Well Location:

Sec. 6, T23N, R10W; 920' FNL & 215' FEL

The operators proposed plug back procedure of the pilot wellbore will **not** sufficiently isolate the top of the Dakota formation. Reasoning: (BLM Geologist picked the top of the Dakota at approx. **5285** ft. TVD).

Therefore, as a minimum, the operator must revise the setting depth of plug "A" from (5347-5747) ft. to (5235-5747) ft.

#### **Onshore Order #2 III.G.1.i**

A cement plug shall be placed to extend at least 50 feet below the bottom (except as limited by total depth (TD) or plugged back total depth (PBTD), to 50 feet above the top of:

- a. Any zone encountered during which contains fluid or gas with the potential to migrate.
- b. Any prospectively valuable deposit of minerals.





After hour contact: Troy Salyers 505-360-9815

### WELLHEAD BLOWOUT CONTROL SYSTEM

encana...



Well name and number:

Good Times A06-2310 01H

