## State of New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez

Governor

**David Martin** 

Cabinet Secretary-Designate

Brett F. Woods, Ph.D.

**Deputy Cabinet Secretary** 



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-3 APD form.

	1.1	•	·	
Wallinfor	ignature Date: $\frac{9}{2}$ - mation; $\frac{1}{2}$	·	mber Good Times	S G24 2410# 011
API# <u>30</u> -	045-35592	, Section <u>24</u> , Tow	nship <u>24 (N</u> S, Range	e_/O_EW
(See the be		andwritten conditions prior to casing & cen		
	d C-104 for direction d C-104 for NSL, NS	al survey & "As Drill SP, <u>DHC</u>	ed" Plat	
-	cing rule violation. (be shut in or abandone	•	up with change of status n	otification on other well
				_

- Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
  - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
  - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
  - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
- Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.

NMOCD Approved by Signature

Form 3160-3 (March 2012)

20,00

UNITED STATES

FORM APPROVED OMB No. 1004-0137 Expires October 31, 2014

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NM	5991	&	NM-62973	MM MM	2	5	24	$\mathcal{C}$

DEPARTMENT OF THE I BUREAU OF LAND MAN		B ZUI	5. Lease Serial No. NM 5991 & NM-629	973 NM NM 2584	
APPLICATION FOR PERMIT TO	and the same	<b>"</b> •	6. If Indian, Allotee	or Tribe Name	
la. Type of work:  DRILL REENTE		. 3	7 If Unit or CA Agree PENDING  8. Lease Name and V		
Ib. Type of Well: ☐ Oil Well	Single Zone Multip	le Zone	Good Times G24-2		
Name of Operator Encana Oil & Gas (USA) Inc.	· .		9. API Well No. 36-645	35592	
3a. Address 370 17th Street, Suite 1700 Denver, CO 80202	3b. Phone No. (include area code) 720-876-5994		10. Field and Pool, or I Basin Mancos Gas/	•	
4. Location of Well (Report location clearly and in accordance with an At surface 2067' FNL and 1725' FEL Section 24, T24N, I At proposed prod. zone 2312' FNL and 1980' FEL Section 2	R10W SWNE		11. Sec., T. R. M. or B Section 24 & 25, T2	•	
14. Distance in miles and direction from nearest town or post office* +/- 39.5 miles south from intersection of US Hwy 550 and to			12. County or Parish San Juan	13. State NM	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease NM 5991 - 640 acres NM-62978240-acres NMQ5842 - 320 acres		ng Unit dedicated to this well cres - SE/4 Section 24, T24N, R10W NE/4 Section 25, T24N, R10W		
18. Distance from proposed location* SHL is +/- 30' S of Good to nearest well, drilling, completed, Times G24-2410 02H applied for, on this lease, ft.	19. Proposed Depth 5175' TVD/ 10,318' MD	20. BLM/E	/BIA Bond No. on file 00235		
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6932' GL; 6948' KB	22. Approximate date work will star 4 /01/2015	t*	23. Estimated duration 20 days		
	24. Attachments				
<ol> <li>The following, completed in accordance with the requirements of Onshor</li> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest System SUPO must be filed with the appropriate Forest Service Office).</li> </ol>	4. Bond to cover the Item 20 above).  Lands, the 5. Operator certification	e operation		existing bond on file (see	
25. Signature T	Name (Printed/Typed) Shannon Turk			Date 9/15/14	
Title Regulatory Analyst			l	<del></del>	
Approved by (Skinature) Manlee Local	Name (Printed/Typed)			Date 10/3 5/10	
Title SEN	Office FFO				
Application approval does not warrant or certify that the applicant hold conduct operations thereon.  Conditions of approval, if any, are attached.	ls legal or equitable title to those right	s in the sub	ect lease which would e	ntitle the applicant to	

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)

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

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

\*(Instructions on page 2)

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

DISTRICT 1 Form C-102 State of New Mexico 1625 N. French Dr., Hobbs, N.M. 68240 Phone: (575) 393-6161 Fax: (575) 393-0720 Revised August 1, 2011 Energy, Minerals & Natural Resources Department DISTRICT II 811 S. Pirst St., Artesia, N.M. 88210 Phone: (675) 748-1283 Fax: (575) 748-9720 Submit one copy to appropriate District Office SEP 18 2014 OIL CONSERVATION DIVISION DISTRICT HI 1000 Rio Brazon Rd., Aztec, N.M. 87410 Phone: (606) 334-6178 Fax: (505) 334-6170 1220 South St. Francis Dr. Santa Fe, NM 87505 DISTRICT IV AMENDED REPORT 1220 S. St. Prancis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Pax: (505) 476-3462 WELL LOCATION AND ACREAGE DEDICATION PLAT API Number Pool Code <sup>a</sup> Pool Name 50-045 BASIN MANCOS GAS / BIST! LOWER-GALLUP 97232 / 5890 <sup>6</sup> Well Number Property Code <sup>5</sup>Property Name GOOD TIMES G24-2410 01H OGRID No. Operator Name <sup>0</sup> Elevation ENCANA OIL & GAS (USA) INC. 282327 6931.7 <sup>10</sup> Surface Location UL or lot no. Lot Idn Section Township Range Feet from the North/South line Feet from the WEST/West line County 2067' **NORTH** G 24 24N 10W 1725 **EAST** SAN JUAN 11 Bottom Hole Location If Different From Surface UL or lot no. Section Lot Idn Feet from the North/South line Township Range Feet from the WEST/West line County 2312 **NORTH** G 25 24N 10W 1980 **EAST** SAN JUAN Dedicated Acres PROJECT AREA Joint or Infill 14 Consolidation Code 15 Order No. 320.00 ACRES SE/4 SEC. 24 OIL CONS. DIV DIST. 3 20 WANCO 1100 Gallup 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 0 3 2014 S 89'47'54" W S 89'50' W 5211.3 5211.03' (M) 18 17 OPERATOR CERTIFICATION 1 LAT. 36.292203' N (NAD83) 5211.36 LONG. 107.856964° W (NAD83) BASIS OF BEARINGS hereby certify that the information contained herein is LAT. 36.292192' N (NAD27) LONG. 107.856347' W (NAD27) true and complete to the best of my knowledge and belief, and that this organization either owns a working interest 15'35'10" or unleased mineral interest in the land including the 2 LAT. 36.277666' N (NAD83) LONG. 107.856981' W (NAD83)  $\widehat{\mathbf{z}}$ 942.28 proposed bollom hole location or has a right to drill this 0.02 well at this location pursuant to a contract with an owner 8 LAT. 36.277654' N (NAD27) .90' of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. LONG. 107.856364" W (NAD27) 27 5291 5291. 3 LAT. 36.292238\* N (NAD83) LONG. 107.848071\* W (NAD83) LAT. 36.292226' N (NAD27) LONG. 107.847454' W (NAD27) ш Signature 1980 45, +.69° 4.62° 0.13 4 LAT. 36.292273' N (NAD83) Shannon Turk LONG. 107.839186' W (NAD83) ō BISTI LOWER-Printed Name LAT. 36.292261' N (NAD27) LONG. 107.838569' W (NAD27) ö GALLUP shannon.turk@encana.com 5 LAT. 36.277765' N (NAD83) 0.04.49 LONG, 107.839174" W (NAD83) E-mail Address LAT. 36.277753' N (NAD27) S 89'44'02" W SURVEYOR CERTIFICATION LONG. 107.838557' W (NAD27) 26 8.24 2620.79' (M) ·w hereby certify that the well location shown on this S 89'45' W 2619.87' (R) plat was plotted from field notes of actual surveys mad WELL FLAG by me or under my supervision, and that the same is true and correct to the best of my belief. LAT. 36.301096' N (NAD83) LONG. 107.845064' W (NAD83)  $\mathfrak{F}$ LAT. 36.301085° N (NAD27) 8 APRIL 5, 2013 LONG. 107.844447 W (NAD27) 0.02,11, .92, BASIN. A MILES of Survey MANCOS GAS Signature ENTRY POINT 5291 5291.2 ٠. LAT. 36.298602 N (NAD83) вн LONG. 107.845923' W (NAD83) 5 LAT. 36.298591° N (NAD27) LONG. 107.845306' W (NAD27) ш 0.04,09" 0.04 1.34 (<u>R</u>) z PORESSIONAL LAND BOTTOM HOLE Z LAT. 36.285894' N (NAD83) LONG. 107 845899" W (NAD83) ALL CORNERS FND 2½" BC GLO 1932 LAT. 36.285882" N (NAD27) LONG. 107.845282' W (NAD27) DAVID RUSSELI **⊕**5

\$ 89'37' W S 89'36'48" W

Certificate Number

10201

SHL: 1725'FEL & 2067'FNL Sec 24 24N10W BHL: 1980'FEL & 2312'FNL Sec 25 24N10W

San Juan, New Mexico

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

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

The estimated tops of important geologic markers are as follows:

Formation	Depth (TVD) units = feet
San Jose Fn.	n/a
Nacimiento Fn.	surface
Ojo Alamo Ss.	830
Kirtland Shale	982
Fruitland Coal	1,294
Pictured Cliffs Ss.	1,625
Lewis Shale	1,796
Cliffhouse Ss.	2,369
Menefee Fn.	3,119
Point Lookout Ss.	3,994
Mancos Shale	4,236
Mancos Silt	4,791
Gallup Fn.	5,061
Base Gallup	5,360

The referenced surface elevation is 6932', KB 6948'

## 2. ESTIMATED DEPTH OF POTENTIAL WATER, OIL, GAS,

& OTHER MINERAL BEARING FORMATIONS

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	1,294
Oil/Gas	Pictured Cliffs Ss.	1,625
Oil/Gas	Cliffhouse Ss.	2,369
Gas	Menefee Fn.	3,119
Oil/Gas	Point Lookout Ss.	3,994
Oil/Gas	Mancos Shale	4,236
Oil/Gas	Mancos Silt	4,791
Oil/Gas	Gallup Fn.	5,061

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

SHL: 1725'FEL & 2067'FNL Sec 24 24N10W BHL: 1980'FEL & 2312'FNL Sec 25 24N10W

San Juan, New Mexico

#### 3. PRESSURE CONTROL

- a) Pressure contol 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.
- e) Blind and Pipe Rams/BOP will be tested against a test plug to 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.
- j) The kill line shall be 2-inch minimum and contain two kill line valves, one of which shall be a check valve.
- k) 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.
- m) Hand wheels shall be installed on all ram preventers
- 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 (MD)	Hole Size	Csg Size	Weight	Grade
Conductor	0'-60'	26"	16"	42.09#	
Surface	0'-500'	12 1/4"	9 5/8"	36#	J55, STC New
Intermediate	0'-5321'	8 3/4"	7"	26#	J55, LTC New
Production Liner	5221'-10318'	6 1/8"	4 1/2"	11.6#	B80*, LTC New

Casing String				Ca	sing Strengt	Minimum Design Factors				
Size	Weight	Grade	Connectio	Collapse	Burst (psi)	Tensile (1000lbs)	Collapse	Burst	Tensio	
	(ppf)		n	(psi)	<b>.</b>				n	
9 5/8"	36	J55	STC	2020	3520	394	1.125	1.1_	1.5	
7"	26	J55	LTC	4320	4980	367	1.125	1.1	1.5	
4.5"	11.6	B80	LTC	6350	7780	201	1.125	1.1	1.5	

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

Casing design is subject to revision based on geologic conditions encountered

SHL: 1725'FEL & 2067'FNL Sec 24 24N10W BHL: 1980'FEL & 2312'FNL Sec 25 24N10W

San Juan, New Mexico

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.

## b) The proposed cementing program is as follows

Casing	Depth	Cement Volume	Cement Type & Yield	Designed	Centralizers
	(MD)	(sacks)		TOC	
Conductor	0'-60'	100 sks	Type I Neat 16 ppg	Surface	None
Surface	0'-500'	276 sks	Type III Cement + 1% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.2% bwoc FL-52A + 58.9% Fresh Water	Surface	1 per joint on bottom 3 joints
Intermediate	0'-5321'	100% open hole excess Stage 1 Lead: 705 sks Stage 1 Tail: 536 sks	Lead: PremLite + 3% CaCl + 0.25lb/sk CelloFlake + 5lb/sk LCM, 12.1ppg 2.13cuft/sk Tail: Type III Cmt + 1% CaCl + 0.25lb/sk Cello Flake 14.5ppg 1.38cuft/sk	Surface	1 every 3 joints through water bearing zones
Production Liner	5221'- 10318'	50% OH excess Stage 1 Blend Total: 279sks	Blend: Premium Lite High Strength FM + 0.7% bwoc R-3 + 3% bwow Potassium Chloride + 0.25lbs/sack Cello Flake + 0.5% bwoc CD-32 + 1.15% bwoc FL- 52A + 60 lbs/sack Calcium Carbonate + 124.4% Fresh Water. Yield 2.63 cuft/sk	Liner Hanger	N/A

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 a minimum of 8 hours or adequate to achieve minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

### 5. WELL PLAN & DIRECTIONAL DRILLING PROGRAM

The proposed horizontal well will have a kick off point of 3500'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	5175'/10318'	Gallup

SHL: 1725'FEL & 2067'FNL Sec 24 24N10W BHL: 1980'FEL & 2312'FNL Sec 25 24N10W

San Juan, New Mexico

## 6. DRILLING FLUIDS PROGRAM

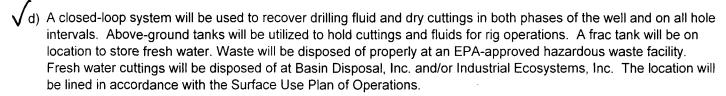
a) Surface through Intermediate Casing Point:

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	(sec/qt)	Fluid Loss (cc)
30"	0-60'/60'	Fresh Water	8.3-9.2	38-100	4-28
12 1/4"	0'-500'/500'	Fresh Water	8.3-10	60-70	NC
8 3/4"	500'/500'-5175'/5321	Fresh Water LSND	8.3-10	40-50	8-10

b) Intermediate Casing Point to TD:

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
	5175'/5321'-				
6 1/8"	5175'/10318'	Fresh Water LSND	8.3-10	15-25	<15

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.



### 7. TESTING, CORING, & LOGGING

- a) Drill Stem Testing None anticipated.
- b) Coring None anticipated.
- c) Mudd Logging Mud loggers will be on location from kick off point to TD.
- d) Logging See below

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 +/- 2481 psi based on a 9.0 ppg at 5301' TVD of the horizontal lateral target. No abnormal pressure or temperatures are anticipated.

No hydrogen sulfide gas is anticipated, however, if H<sub>2</sub>S 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 April 1, 2015. 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 20 days.

LOC: 1725	'FEL & 2067'F	NL Sec 24 24N10W		En	car	na Na	atu	ral Gas			ENG: Michael Sanch	9/15/14
County: San											RIG: Unassigned	
WELL: GOOD	Times G24-2	410 01H		,	NE	LL SU	IMI	IARY			GLE: 6931.7	
								<del></del>	<del></del>		RKBE: 6947.7	
MWD	OPEN HOLE	·	DEPTH						HOLE	CASING	MW	DEVIATION
LWD	LOGGING	FORM	TVD	MD					SIZE	SPECS	MUD TYPE	INFORMATION
					Н		Ш			·		
					Н		H			16" 42.09#	Fresh wtr	
		San Jose Fn.	60	60'	П			······································	26	100sx Type I Neat 16.0ppg cmt	8.3-9.2	· · · · · · · · · · · · · · · · · · ·
Multi-Well pad					Ш					İ		
take survey					П					9 5/8" 36ppf J55 STC	Fresh wtr	Vertical
every stand and run anti-	None				П				1.0.4	TOC Surface with 100% OH Excess:		<1°
collision					П				12 1/4	276 sks Type III Cement + 1% bwoc	8.3-10	<b>V</b> 1-
report prior to spud		Nacimiento Fn.	surface		П					Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.2% bwoc FL-52A + 58.9%		
		9 5/8" Csg	500	500.00	П					Fresh Water.		
		Ojo Alamo Ss.	830				i .		1			
		Kirtland Shale	982		- [					7" 26ppf J55 LTC	Fresh Wtr	
	No OH logs	Fruitland Coal	1,294							7 20ppi 355 ETC	Fresh Wit	
Survey Every					- [					TOC @ surface		Vertical
60'-120', updating		Pictured Cliffs Ss.	1,625		ı					(100% OH excess - 70% Lead 30%	8.3-10	<1°
anticollision		Lewis Shale	1,796		ŀ				8 3/4	Tail) Stage 1 Total: 1242sks		
report after surveys. Stop		Cliffhouse Ss.	2,369		ı							
operations and		Menefee Fn,	3,119		- 1					Stage 1 Lead: 705 sks Premium Lite		
contact drilling engineer if		Point Lookout Ss.	3,994		ı		ļ			FM + 3% CaCl2 + 0.25/sk Cello Flake		
separation		Mancos Shale	4,236		ı					+ 5#/sk LCM-1 + 8% Bentonite + 0.4% FL-52A + 0.4% Sodium Metasilicate.		
factor approaches					ı					Mixed at 12.1 ppg. Yield 2.13 cuft/sk.		
1.5					ı	Į	l					
	Mud logger	КОР	3,500	3,500	,	\ '	\					
	onsite					\	- \			Stage 1 Tail: 536 sks Type III Cement + 1% CaCl2 + 0.25#/sk Cello Flake +		
			. =			_ /		\		0.2% FL-52A. Mixed at 14.6 ppg. Yield		
Surveys every 30' through		Mancos Silt	4,791			\	\			1.38 cuft/sk.		
the curve							1	\				
							,	'				
		Gallup Fn.	5,061					1\		·		
				E 2041								
		7" Csg	5,175	5,321'				-'\ <i>\\</i> -	+			Horz Inc/TVD
								\\	6 1/8	100' overlap at liner top		91.3deg/5300.7ft
Surveys every stand to TD		Horizontal Target	5,301					//	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1	]	
unless		TD	5,175	10,318				\		4997' Drilled Lateral		TD = 10317.9 MD
directed otherwise by												
Geologist	No OH Logs	Base Gallup	5,360							4 4/2" 44 6 m - 5 CD20 1 TO	8,3-10	
	,									4 1/2" 11.6ppf SB80 LTC	8.3-10	
										TOC @ hanger		
										(50% OH excess) Stage 1 Total: 279sks		
MWD			l i									
Gamma												
Directional								•		Stage 1 Blend: 279 sks Premium Lite High Strength FM + 0.7% bwoc R-3 + 3% bwow		
·										Potassium Chloride + 0.25lbs/sack Cello Flake + 0.5% bwoc CD-32 + 1.15% bwoc FL-	[	
										52A + 60 lbs/sack Calcium Carbonate +		
										124.4% Fresh Water, Yield 2.63 cuft/sk,		
									1	1	1	

## NOTES:

- 1) Drill with 26" bit to 60', set 16" 42.09ppf conductor pipe
- 2) Drill surface to 500', R&C 9 5/8" casing
- 3) N/U BOP and surface equipment
- 4) Drill to KOP of 3500', 8 3/4 inch holesize
- 5) Start curve at 10deg/100' build rate
- 6) Drill to csg point of 5321' MD
- 7) R&C 7" csg, circ cmt to surface
- 8) Land at ~90 deg, drill lateral to 10318' run 4 1/2 inch cemented liner

encana

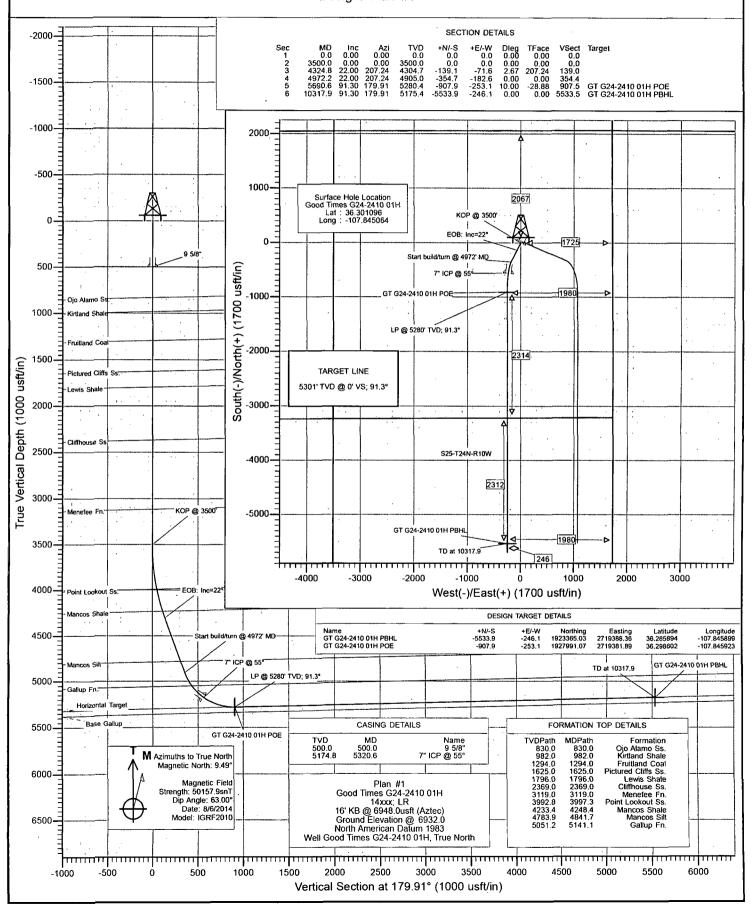
Project: San Juan County, NM

Site: S24-T24N-R10W

Well: Good Times G24-2410 01H

Wellbore: Hz Design: Plan #1





Database: Company:

USA EDM 5000 Multi Users DB EnCana Oil & Gas (USA) Inc San Juan County, NM

Project: Site: ' S24-T24N-R10W Good Times G24-2410 01H Well:

Wellbore: Hz Plan #1 Design:

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference: Survey Calculation Method:

and the second of the second o Well Good Times G24-2410 01H

16' KB @ 6948.0usft (Aztec) 16' KB @ 6948.0usft (Aztec)

True

Minimum Curvature

Project San Juan County, NM

Map System:

US State Plane 1983

System Datum:

Mean Sea Level

North American Datum 1983 Geo Datum: New Mexico Western Zone Map Zone:

S24-T24N-R10W Site

Site Position: From: **Position Uncertainty:** 

Lat/Long

0.0 usft

Northing: Easting: Slot Radius:

1,928,556.02 usft 2,717,274.54 usft 13-3/16"

Latitude:

Longitude: **Grid Convergence:** 

36.300153 -107.853075 -0.01 °

Well Good Times G24-2410 01H **Well Position** +N/-S 0.0 usft 1,928,898.91 usft 36.301096 Northing: +E/-W 0.0 usft Easting: 2,719,635.12 usft Longitude: -107.845064 **Position Uncertainty** 0.0 usft Wellhead Elevation: 0.0 usft Ground Level: 6,932.0 usft

Declination Dip Angle Model Name Field Strength IGRF2010 8/6/2014

Plan #1 Design **Audit Notes:** Version: PLAN Phase: Tie On Depth: +E/-W **Vertical Section:** Depth From (TVD) +N/-S Direction (usft) (usft) (usft) (°) 0.0 0.0 0.0 179.91

<b>Neasured</b>			Vertical			Dogleg	Build	Turn		
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Rate	Rate	Rate	TFO	
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	<b>(°)</b>	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,324.8	22.00	207.24	4,304.7	-139.1	-71.6	2.67	2.67	0.00	207.24	
4,972.2	22.00	207.24	4,905.0	-354.7	-182.6	0.00	0.00	0.00	0.00	
5,690.6	91.30	179.91	5,280.4	-907.9	-253.1	10.00	9.65	-3.80	-28.88	GT G24-2410 01H
10,317.9	91.30	179.91	5,175.4	-5,533.9	-246.1	0.00	0.00	0.00	0.00	GT G24-2410 01H

Database:

Control of the contro USA EDM 5000 Multi Users DB

Company: Project:

EnCana Oil & Gas (USA) Inc San Juan County, NM

Site: Well: S24-T24N-R10W

Wellbore: Design:

Good Times G24-2410 01H

Hz Plan #1 Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference: Survey Calculation Method: Well Good Times G24-2410 01H

16' KB @ 6948.0usft (Aztec) 16' KB @ 6948.0usft (Aztec)

True

Minimum Curvature

anned Surve		* ** **							
Measured Depth (usft)	Inclination	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500,0	0.0	0.0	0.0	0.00	0.00	9 5/8"
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	5 G/G
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
830.0	0.00	0.00	830.0	0.0	0.0	0.0	0.00		Ojo Alamo Ss.
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
982.0	0.00	0.00	982.0	0.0	0.0	0.0	0.00		Kirtland Shale
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,294.0	0.00	0.00	1,294.0	0.0	0.0	0.0	0.00	0.00	Fruitland Coal
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	
1,625.0	0.00	0.00	1,625.0	0.0	0.0	0.0	0.00	0.00	Pictured Cliffs Ss.
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	
1,796.0	0.00	0.00	1,796.0	0.0	0.0	0.0	0.00	0.00	Lewis Shale
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	
2,369.0	0.00	0.00	2,369.0	0.0	0.0	0.0	0.00	0.00	Cliffhouse Ss.
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	. 0.0	0.0	0.00	0.00	
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	
3,119.0	0.00	0.00	3,119.0	0.0	0.0	0.0	0.00		Menefee Fn.
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00		KOP @ 3500'
3,600.0	2.67	207.24	3,600.0	-2.1	-1.1	2.1	2.67	2.67	
3,700.0	5.33	207.24	3,699.7	-8.3	-4.3	8.3	2.67	2.67	
3,800.0	8.00	207.24	3,799.0	-18.6	-9.6	18.6	2.67	2.67	
3,900.0	10.67	207.24	3,897.7	-33.0	-17.0	33.0	2.67	2.67	
3,997.3	13.26	207.24	3,992.8	-50.9	-26.2	50.9	2.67		Point Lookout Ss.
4,000.0	13.34	207.24	3,995.5	-51.5	-26.5	51.5	2.67	2.67	
4,100.0	16.00	207.24	4,092.2	-74.0	-38.1	74.0	2.67	2.67	
4,200.0	18.67	207.24	4,187.7	-100.5	-51.7	100.4	2.67	2.67	
4,248.4	19.96	207.24	4,233.4	-114.8	-59.1	114.7	2.67	2.67	Mancos Shale

Database:

USA EDM 5000 Multi Users DB

Company:

EnCana Oil & Gas (USA) Inc San Juan County, NM

Project: Site:

S24-T24N-R10W

Well:

Wellbore: Design:

Good Times G24-2410 01H

Hz Plan #1 Local Co-ordinate Reference:

**TVD Reference:** MD Reference: North Reference:

**Survey Calculation Method:** 

Well Good Times G24-2410 01H

and the state of t

16' KB @ 6948.0usft (Aztec) 16' KB @ 6948.0usft (Aztec)

True

Minimum Curvature

Measured	•		Vertical			Vertical	Dogleg	Build	Comments /
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Section (usft)	Rate (°/100usft	Rate (°/100u	Formations
4,300.0	21.34	207.24	4,281.6	-130.9	-67.4	130.8	2.67	2.67	
4,324.8	22.00	207.24	4,304.7	-139.1	-71.6	139.0	2.67	2.67	EOB: Inc=22°
4,400.0	22.00	207.24	4,374.4	-164.1	-84.5	164.0	0.00	0.00	
4,500.0	22.00	207.24	4,467.1	-197.4	-101.6	197.2	0.00	0.00	
4,600.0	22.00	207.24	4,559.8	-230.7	-118.8	230.5	0.00	0.00	
4,700.0	22.00	207.24	4,652.6	-264.0	-135.9	263.8	0.00	0.00	
4,800.0	22.00	207.24	4,745.3	-297.3	-153.1	297.1	0.00	0.00	
4,841.7	22.00	207.24	4,783.9	-311.2	-160.2	311.0	0.00	0.00	Mancos Silt
4,900.0	22.00	207.24	4,838.0	-330.6	-170.2	330.4	0.00	0.00	
4,972.2	22.00	207.24	4,905.0	-354.7	-182.6	354.4	0.00	0.00	Start build/turn @ 4972' MD
5,000.0	24.46	204.00	4,930.5	-364.6	-187.3	364.3	10.00	8.88	
5,100.0	33.73	196.15	5,017.8	-410.3	-203.5	409.9	10.00	9.26	
5,141.1	37.63	193.96	5,051.2	-433.4	-209.7	433.1	10.00	9.51	Gallup Fn.
5,200.0	43.29	191.41	5,096.0	-470.7	-218.0	470.3	10.00	9.60	
5,300.0	52.99	188.12	5,162.6	-544.0	-230.5	543.6	10.00	9.70	
5,320.6	54.99	187.55	5,174.8	-560.5	-232.8	560.1	10.00		7" ICP @ 55°
5,400.0	62.75	185.59	5,215.8	-628.0	-240.5	627.6	10.00	9.77	7 101 @ 00
5,500.0	72.56	183.47	5,253.7	-720.1	-247.7	719.7	10.00	9.81	
5,600.0	82.39	181.56	5,275.4	-817.5	-252.0	817.1	10.00	9.83	
5,690.6	91.30	179.91	5,280.4	-907.9	-253.1	907.5	10.00		LP @ 5280' TVD; 91.3° - GT G24-2410 01H
5,700.0	91.30	179.91	5,280.4	-917.2	-253.1	916.8	0.00	0.00	CF (@ 3200 1VD, 91.5 2 G1 G24-2410 0111
5,800.0		179.91	•		-253.1	1,016.8	0.00	0.00	
5,900.0	91.30 91.30	179.91	5,277.9 5,275.6	-1,017.2 -1,117.2	-252.8	1,116.8	0.00	0.00	
			•	•		,			·
6,000.0	91.30	179.91	5,273.4	-1,217.1	-252.6	1,216.8	0.00	0.00	
6,100.0	91.30	179.91	5,271.1	-1,317.1	-252.5	1,316.7	0.00	0.00	
6,200.0	91.30	179.91	5,268.8	-1,417.1	-252.3	1,416.7	0.00	0.00	
6,300.0	91.30	179.91	5,266.6	-1,517.1	-252.2	1,516.7	0.00	0.00	
6,400.0	91.30	179.91	5,264.3	-1,617.0	-252.0	1,616.6	0.00	0.00	
6,500.0	91.30	179.91	5,262.0	-1,717.0	-251.9	1,716.6	0.00	0.00	
6,600.0	91.30	179.91	5,259.8	-1,817.0	-251.7	1,816.6	0.00	0.00	
6,700.0	91.30	179.91	5,257.5	-1,917.0	-251.6	1,916.6	0.00	0.00	
6,800.0	91.30	179.91	5,255.2	-2,016.9	-251.4	2,016.5	0.00	0.00	
6,900.0	91.30	179.91	5,253.0	-2,116.9	-251.3	2,116.5	0.00	0.00	
7,000.0	91.30	179.91	5,250.7	-2,216.9	-251.1	2,216.5	0.00	0.00	
7,100.0	91.30	179.91	5,248.4	-2,316.9	-251.0	2,316.5	0.00	0.00	
7,200.0	91.30	179.91	5,246.2	-2,416.8	-250.8	2,416.4	0.00	0.00	
7,300.0	91.30	179.91	5,243.9	-2,516.8	-250.7	2,516.4	0.00	0.00	
7,400.0	91.30	179.91	5,241.6	-2,616.8	-250.5	2,616.4	0.00	0.00	
7,500.0	91.30	179.91	5,239.3	-2,716.8	-250.4	2,716.4	0.00	0.00	
7,600.0	91.30	179.91	5,237.1	-2,816.7	-250.2	2,816.3	0.00	0.00	
7,700.0	91.30	179.91	5,234.8	-2,916.7	-250.1	2,916.3	0.00	0.00	
7.800.0	91.30	179.91	5,232.5	-3,016.7	-249.9	3,016.3	0.00	0.00	
7,900.0	91.30	179.91	5,230.3	-3,116.7	-249.8	3,116.3	0.00	0.00	
8,000.0	91.30	179.91	5,228.0	-3,216.6	-249.6	3,216.2	0.00	0.00	
8,100.0	91.30	179.91	5,225.7	-3,316.6	-249.5	3,316.2	0.00	0.00	
8,200.0	91.30	179.91	5,223.7	-3,416.6	-249.3	3,416.2	0.00	0.00	•
8,300.0	91.30	179.91	5,221.2	-3,516.5	-249.2	3,516.2	0.00	0.00	
8,400.0	91.30	179.91	5,218.9	-3,616.5	-249.2	3,616.1	0.00	0.00	
								0.00	
8,500.0	91.30	179.91 179.91	5,216.7 5,214.4	-3,716.5 -3,816.5	-248.9 -248.7	3,716.1 3,816.1	0.00 0.00	0.00	
0 000 0			2 / 1 / 1 / 1	-a alb a	-240.7	3.010.1	0.00	U.UU	
8,600.0 8,700.0	91.30 91.30	179.91	5,212.1	-3,916.4	-248.5	3,916.0	0.00	0.00	

Database:

entered to the property of the second USA EDM 5000 Multi Users DB

Company:

EnCana Oil & Gas (USA) Inc

Project:

San Juan County, NM

Site:

S24-T24N-R10W

Well:

Good Times G24-2410 01H

Wellbore: Design:

10,000.0

10,100.0

10,200.0

10,300.0

10,317.9

Hz Plan #1

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5,180.3

5,178.1

5,175.8

5,175.4

-5,216.1

-5,316.1

-5,416.1

-5,516.0

-5,533.9

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

**Survey Calculation Method:** 

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16' KB @ 6948.0usft (Aztec)

16' KB @ 6948.0usft (Aztec)

True

Minimum Curvature

nned Surve	y			** *** 1.1	¥						
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	Comments / Formations		
8,900.0	91.30	179.91	5,207.6	-4,116.4	-248.2	4,116.0	0.00	0.00	7 . m. m. m.	 	*
9,000.0	91.30	179.91	5,205.3	-4,216.4	-248.1	4,216.0	0.00	0.00			
9,100.0	91.30	179.91	5,203.0	-4,316.3	-247.9	4,315.9	0.00	0.00			
9,200.0	91.30	179.91	5,200.8	-4,416.3	-247.8	4,415.9	0.00	0.00			
9,300.0	91.30	179.91	5,198.5	-4,516.3	-247.6	4,515.9	0.00	0.00			
9,400.0	91.30	179.91	5,196.2	-4,616.3	-247.5	4,615.9	0.00	0.00			
9,500.0	91.30	179.91	5,194.0	-4,716.2	-247.3	4,715.8	0.00	0.00			
9,600.0	91.30	179.91	5,191.7	-4,816.2	-247.2	4,815.8	0.00	0.00			
9,700.0	91.30	179.91	5,189.4	-4,916.2	-247.0	4,915.8	0.00	0.00			
9,800.0	91.30	179.91	5,187.2	-5,016.2	-246.9	5,015.8	0.00	0.00			
9,900.0	91.30	179.91	5.184.9	-5.116.1	-246.7	5.115.7	0.00	0.00			

5,215.7

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0:00 TD at 10317.9 - GT G24-2410 01H PBHL

-246.6

-246.4

-246.3

-246.1

-246.1

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 G24-2410 01H PBHI - plan hits target cent - Point	0.00 er .	0.00	5,175.4	-5,533.9	-246.1	1,923,365.03	2,719,388.36	36.285894	-107.845899
GT G24-2410 01H POE - plan hits target cent - Point	0.00 er	0.00	5,280.4	-907.9	-253.1	1,927,991.07	2,719,381.89	36.298602	-107.845923

Casing Points	1		g made model is				
	Measured Depth (usft)	Vertical Depth (usft)		Name	Casing Diameter (")	Hole Diameter (")	
	500.0	500.0	9 5/8"		0	0	
	5,320.6	5,174.8	7" ICP @ 55°		0	0	

Database:

USA EDM 5000 Multi Users DB

Company:

EnCana Oil & Gas (USA) Inc San Juan County, NM

Project: Site:

S24-T24N-R10W

Well:

Good Times G24-2410 01H

Wellbore: Design: Hz Plan #1 Local Co-ordinate Reference:

TVD Reference:

MD Reference: North Reference:

Survey Calculation Method:

Well Good Times G24-2410 01H

16' KB @ 6948.0usft (Aztec) 16' KB @ 6948.0usft (Aztec)

True

: Minimum Curvature

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip . (°)	Dip Direction (°)
 830.0	830.0	Ojo Alamo Ss.	T I DE TOTO DE CONTROLOGICO DE CONTROLOGICO DE CONTROLOGICO DE CONTROLOGICO DE CONTROLOGICO DE CONTROLOGICO DE	-1.30	179.91
982.0	982.0	Kirlland Shale		-1.30	179.91
1,294.0	1,294.0	Fruitland Coal		-1.30	179.91
1,625.0	1,625.0	Pictured Cliffs Ss.		-1.30	179.91
1,796.0	1,796.0	Lewis Shale		-1.30	179.91
2,369.0	2,369.0	Cliffhouse Ss.		-1.30	179.91
3,119.0	3,119.0	Menefee Fn.		-1.30	179.91
3,997.3	3,994.0	Point Lookout Ss.		-1.30	179.91
4,248.4	4,236.0	Mancos Shale		-1.30	179.91
4,841.7	4,791.0	Mancos Silt		-1.30	179.91
5,141.1	5,061.0	Gallup Fn.		-1.30	179.91

Plan Annotation			and the same of th			
	Measured	Vertical	Local Coor	dinates		
<u> </u>	Depth (usft)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment	
	3,500.0	3,500.0	0.0	0.0	KOP @ 3500'	rement on a roll to a many the summary of
	4,324.8	4,304.7	-139.1	<i>-</i> 71.6	EOB: Inc=22°	
	4,972.2	.4,905.0	-354.7	-182.6	Start build/turn @ 4972' MD	
	5,690.6	5,280.4	-907.9	-253.1	LP @ 5280' TVD; 91.3°	
	10,317.9	5,175.4	-5,533.9	-246.1	TD at 10317.9	

## EnCana Oil & Gas (USA) Inc

San Juan County, NM S24-T24N-R10W Good Times G24-2410 01H Hz Plan #1

## **Anticollision Report**

06 August, 2014

Company:

EnCana Oil & Gas (USA) Inc

Project:

San Juan County, NM

Reference Site:

S24-T24N-R10W

Site Error: Reference Well: 0.0usft Good Times G24-2410 01H

Well Error:

0.0usft

Reference Wellbore Reference Design:

Hz Plan #1 Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

**Survey Calculation Method:** 

Output errors are at Database:

Offset TVD Reference:

Well Good Times G24-2410 01H 16' KB @ 6948.0usft (Aztec) 16' KB @ 6948.0usft (Aztec)

True

Minimum Curvature

2.00 sigma

, Offset Datum

USA EDM 5000 Multi Users DB

Reference

Plan #1

Filter type:

NO GLOBAL FILTER: Using user defined selection & filtering criteria MD Interval 100.0usft

Interpolation Method: Depth Range: Results Limited by:

Unlimited

Maximum center-center distance of 1,236.4usft

Scan Method: **Error Surface:**  Systematic Ellipse

Closest Approach 3D Elliptical Conic

Warning Levels Evaluated at:

2.00 Sigma

Survey Tool Program

(usft)

Date 8/6/2014

10,317.9 Plan #1 (Hz)

From

0.0

To (usft)

Survey (Wellbore)

Tool Name

Description

Geolink MWD

Geolink MWD

	Reference	Offset	Dista	nce		
Site Name Offset Well - Wellbore - Design	Measured Depth (usft)	Measured Depth (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
S24-T24N-R10W	2 3				· ·	
Good Times G24-2410 02H - Hz - Plan #1	2,500.0	2,500.0	29.8	21.1	3.434	CC, ES
Good Times G24-2410 02H - Hz - Plan #1	2,600.0	2,599.5	30.6	21.6	3.398	SF
S25-T24N-R10W						
Good Times P25-2410 01H - Hz - Plan #1	10,317.9	6,982.9	793.5	760.1	23.801	CC, ES, SF

COMPASS 5000.1 Build 72 8/6/2014 1:19:50PM Page 2 of 6

Company:

EnCana Oil & Gas (USA) Inc

Project:

San Juan County, NM

Reference Site:

S24-T24N-R10W

Site Error:

0.0usft

Reference Well:

Reference Design:

Good Times G24-2410 01H

Well Error: Reference Wellbore 0.0usft

Hz Plan #1 Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Output errors are at

Database:

Offset TVD Reference:

Well Good Times G24-2410 01H 16' KB @ 6948.0usft (Aztec) 16' KB @ 6948.0usft (Aztec)

True

Minimum Curvature

2.00 sigma

USA EDM 5000 Multi Users DB

Offset Datum

Offset Des Survey Progr Refere	ram: 0-Ge	eolink MWD Offse		Semi Major		2410 <u>02H</u> - J			Dista	ance			Offset Site Error: Offset Well Error:	0.0 us
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore	Centre +E/-W	Between Centres	Between Ellipses	Total Uncertainty	Separation Factor	Warning	
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)	Axis			
0.0	0.0	0.0	0.0	0,0	0.0	51.43	18.6	23.3	29.8					
100.0	100.0	100.0	100.0	0.1	0.1	51.43	18.6	23.3	29.8	29,5	0.29	101.546		
200.0	200.0	200.0	200.0	0.3	0.3	51.43	18.6	23.3	29.8	29.1	0.64	46.358		
300.0	300.0	300.0	300.0	0.5	0.5	51.43	18.6	23.3	29.8	28.8	0.99	30.035		
400.0	400.0	400.0	400.0	0.7	0.7	51.43	18.6	23.3	29.8	28.4	1.34	22.213		
500.0	500.0	500.0	500.0	0.8	0.8	51.43	18.6	23.3	29.8	28.1	1.69	17.624		
600.0	600.0	600.0	600.0	1.0	1.0	51.43	18.6	23.3	29.8	27.7	2.04	14.606		
700.0	700.0	700.0	700.0	1.2	1.2	51.43	18.6	23.3	29.8	27.4	2.39	12.471		
800.0	0.008	0.008	800.0	1.4	1.4	51.43	18.6	23.3	29.8	27.0	2.74	10.880		
900.0	900.0	900.0	900.0	1.5	1.5	51.43	18.6	23.3	29.8	26.7	3.09	9.649		
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	51.43	18.6	23.3	29.8	26.3	3.43	8.669		
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	51.43	18.6	23.3	29.8	26.0	3.78	7.869		
1,200.0	1,200.0	1,200.0	1,200.0	2.1	2.1	51.43	18.6	23.3	29.8	25.6	4.13	7.204		
1,300.0	1,300.0	1,300.0	1,300.0	2.2	2.2	51.43	18.6	23.3	29.8	25.3	4.48	6.643		
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	51.43	18.6	23.3	29.8	24.9	4.83	6.163		
1,500.0	1,500.0	1,500.0	1,500.0	2.6	2.6	51.43	18.6	23.3	29.8	24.6	5.18	5.748		
1,600.0	1,600.0	1,600.0	1,600.0	2.8	2.8	51.43	18.6	23.3	29.8	24.2	5.53	5,385		
1,700.0	1,700.0	1,700.0	1,700.0	2.9	2.9	51.43	18.6	23.3	29.8	23.9	5,88	5.065		
1,800.0	1,800.0	1,800.0	1,800.0	3.1	3.1	51.43	18.6	23.3	29.8	23.5	6.23	4.781		
1,900.0	1,900.0	1,900.0	1,900.0	3.3	3.3	51.43	18.6	23.3	29.8	23.2	6.58	4.528		
2,000.0	2,000.0	2,000.0	2,000.0	3.5	3.5	51,43	18.6	23.3	29.8	22.8	6.93	4.299		
2,100,0	2,100.0	2,100.0	2,100.0	3.6	3.6	51.43	18.6	23.3	29.8	22.5	7.27	4.093		
2,200.0	2,200.0	2,200.0	2,200.0	3.8	3.8	51.43	18.6	23.3	29.8	22.2	7.62	3.906		
2,300.0	2,300.0	2,300.0	2,300.0	4.0	4.0	51.43	18.6	23.3	29.8	21.8	7.97	3.735		
2,400.0	2,400.0	2,400.0	2,400.0	4.2	4.2	51.43	18.6	23.3	29.8	21.5	8.32	3.578		
2,500.0	2,500.0	2,500.0	2,500.0	4.3	4.3	51.43	18.6	23.3	29.8	21.1	8.67	3.434 CC, I	s .	
2,600.0	2,600.0	2,599.5	2,599.4	4.5	4.5	54.26	17.9	24.9	30.6	21.6	9.02	3.398 SF		
2,700.0	2,700.0	2,698.7	2,698.5	4.7	4.7	61.77	15.9	29.6	33.7	24.3	9.37	3.593		
2,800.0	2,800.0	2,797.4	2,796.9	4.9	4.9	71.41	12.6	37.5	39.7	30.0	9.73	4.082		
2,900.0	2,900.0	2,895.5	2,894.2	5.0	5.1	80.56	8.1	48.4	49.4	39.3	10.09	4.901		
3,000.0	3,000.0	2,992.6	2,990.2	5.2	5.3	87.91	2.3	62.3	63.1	52.6	10.45	6.035		
3,100.0	3,100.0	3,088.6	3,084.5	5.4	5.5	93.39	-4.7	78.9	80.5	69.7	10.82	7.441		
3,200.0	3,200.0	3,183.3	3,176.8	5.6	5.8	97.38	-12.7	98.1	101.6	90.4	11.20	9.075		
3,300.0	3,300.0	3,276.4	3,267.0	5.7	6.1	100.30	-21.8	119.8	126.1	114.6	11.58	10.895		•
3,400.0	3,400.0	3,368.0	3,354.7	5.9	6.4	102.47	-31.8	143,7	153.9	142.0	11.97	12.866		
3,500.0	3,500.0	3,457.7	3,439.9	6.1	6.8	104.10	-42.6	169.6	184.9	172.5	12.36	14.958		
3,600.0	3,600.0	3,545.4	3,522.4	6.3	7.2	-101.52	-54.2	197.3	219.3	206.9	12.43	17.646		
3,700.0	3,699.7	3,630.8	3,601.7	6.4	7.6	-100.89	-66.4	226.5	257.4	244.6	12.75	20.184		
3,800.0	3,799.0	3,713.6	3,677.6	6.6	8.1	-100.83	-79.1	256.9	299.0	285.9	13.08	22.858		
3,900.0	3,897.7	3,793.6	3,750.1	6.8	8.7	-101.04	-92.2	288.2	344.1	330.7	13.42	25.636		
4,000.0	3,995.5	3,870.6	3,818.9	7.1	9.2	-101.36	-105.5	320.0	392.7	378.9	13.79	28.482		
4,100.0	4,092.2	3,946.1	3,885.5	7.3	9.8	-101.72	-119.2	352.9	444.6	430.4	14.18	31.352		
4,200.0	4,187.7	4,028.8	3,958.0	7.6	10.4	-102.33	-134.5	389.5	498.6	483.9	14.64	34.064		
4,300.0	4,281.6	4,109.9	4,029.2	8.0	11.1	-102.96	-149.5	425.4	554.0	538.8	15.14	36.584		
4,400.0	4,374.4	4,189.9	4,099.4	8.4	11.7	-104.81	-164.3	460.8	610.7	595.0	15.72	38.852		
4,500.0	4,467.1	4,269.8	4,169.5	8.9	12.4	-106.74	-179.1	496.2	668.0	651.7	16.35	40.867		
4,600.0	4,559.8	4,349.8	4,239.7	9.4	13.1	-108.37	-193.9	531.5	725.8	708.8	17.01	42.669		
4,700.0	4,652.6	4,429.7	4,309.8	9.9	13.7	-109.77	-208.7	566.9	783.9	766.2		44.277		
4,800.0	4,745.3	4,509.6	4,380.0	10.4	14.4	-110.98	-223.5	602.3	842.3	823.9	18.42	45.715		
4,900.0	4,838.0	4,589.6	4,450.1	11.0	15.1	-112.04	-238.3	637.6	900.9	881.7	19.17	46.999		
5,000.0	4,930.5	4,669.4	4,520.2	11.5	15.8	-108.05	-253.0	673.0	959.6	939.7	19.88	48.280		

Company:

EnCana Oil & Gas (USA) Inc

Project:

San Juan County, NM

Reference Site: Site Error:

S24-T24N-R10W

Reference Well:

0.0usft Good Times G24-2410 01H

Well Error: Reference Design:

0.0usft Hz Reference Wellbore Plan #1

TVD Reference:

Well Good Times G24-2410 01H Local Co-ordinate Reference: 16' KB @ 6948.0usft (Aztec) MD Reference: 16' KB @ 6948.0usft (Aztec)

The control of the co

North Reference:

Survey Calculation Method:

Output errors are at

Database: Offset TVD Reference: True Minimum Curvature

2.00 sigma

USA EDM 5000 Multi Users DB

Offset Dalum

ffset Des		S24-T24	4N-R10W	- Good Tim	es G24-2	2410 02H - H	lz - Plan #1	-				- :	Offset Site Error: Offset Well Error:	0.0 us
Refere		Offse	et	Semi Major	Axis	•			Dista	псе			Oliset Well Life.	0.0 0.
easured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbor +N/-S (usft)	e Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
5,200.0	5,096.0	4,820.7	4,652.9	13.2	17.1	-88.06	-281.0	739.9	1,072.4	1,050.6	21.78	49.229		
5,300.0	5,162.7	4,887.2	4,711.3	14.3	17.7	-82.48	-293.3	769.4	1,125.3	1,102.3	23.02	48.882		
5,400.0	5,215.8	4,945.0	4,762.0	15.5	18.2	-78.14	-304.0	794.9	1,176.0	1,151.6	24.36	48.268		
5,500.0	5,253.7	4,992.1	4,803.3	16.9	18.7	-74.45	-312.7	815.8	1,224.7	1,198.9	25.78	47.497		

Company:

EnCana Oil & Gas (USA) Inc

Project:

San Juan County, NM

Reference Site:

S24-T24N-R10W

Site Error: Reference Well: 0.0usft

Well Error:

Good Times G24-2410 01H 0.0usft

Reference Wellbore Reference Design: Hz Plan #1 Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Output errors are at

Database:

Offset TVD Reference:

.. 1

Well Good Times G24-2410 01H 16' KB @ 6948.0usft (Aztec) 16' KB @ 6948.0usft (Aztec)

True

Minimum Curvature

2.00 sigma

USA EDM 5000 Multi Users DB

Offset Datum

Offset De: Survey Progr	_	SZO-124 eolink MWD	4IN-IK IUVV	- Good Jin	nes P25-2	2410 <u>01H</u> - H	ız - Pian #1					. 3	ffset Site Error:	0.0 u
Survey Progr Refer		Offse	et	Semi Major	Axis				Dista	псе		0	ffset Well Error:	0.0 u
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellboo +N/-S (usft)	e Centre +E/-W (usfi)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
9,900.0	5,184.9	6,980.5	5,144.4	91.6	49.7	-13.96	-6,326.0	-237.9	1,211.2	1,173.5	37.71	32.121		
10,000.0	5,182.6	6,981.1	5,144.4	93.4	49.7	-12.86	-6,326.0	-238.5	1,111.2	1,074.5	36.68	30.295		
10,100.0	5,180.3	6,981.6	5,144.4	95.1	49.7	-11.76	-6,326.0	-239.0	1,011.2	975.6	35.63	28.381		
10,200.0	5,178.1	6,982.2	5,144.4	96.9	49.7	-10.64	-6,326.0	-239.6	911.3	876.7	34.57	26.358		
10,300.0	5,175.8	6,982.8	5,144.4	98.6	49.7	-9.51	-6,326.0	-240.2	811.3	777.8	33.52	24.202		
10,317.9	5,175.4	6,982.9	5,144.4	98.9	49.7	-9.31	-6,326.0	-240.3	793.5	760.1	33.34	23.801 CC, ES	S, SF	

Company:

 Service Control Services
 Service Control Ser EnCana Oil & Gas (USA) Inc

Project:

San Juan County, NM

,Reference Site: Site Error:

S24-T24N-R10W 0.0usft

Reference Well:

Good Times G24-2410 01H

Well Error: Reference Wellbore

Reference Design:

.Hz

: 0.0usft

Plan #1

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference: Survey Calculation Method:

Output errors are at

Database:

' Minimum Curvature

2.00 sigma

True

Offset TVD Reference:

USA EDM 5000 Multi Users DB

Well Good Times G24-2410 01H

16' KB @ 6948.0usft (Aztec)

16' KB @ 6948.0usft (Aztec)

Offset Datum

Reference Depths are relative to 16' KB @ 6948.0usft (Aztec)

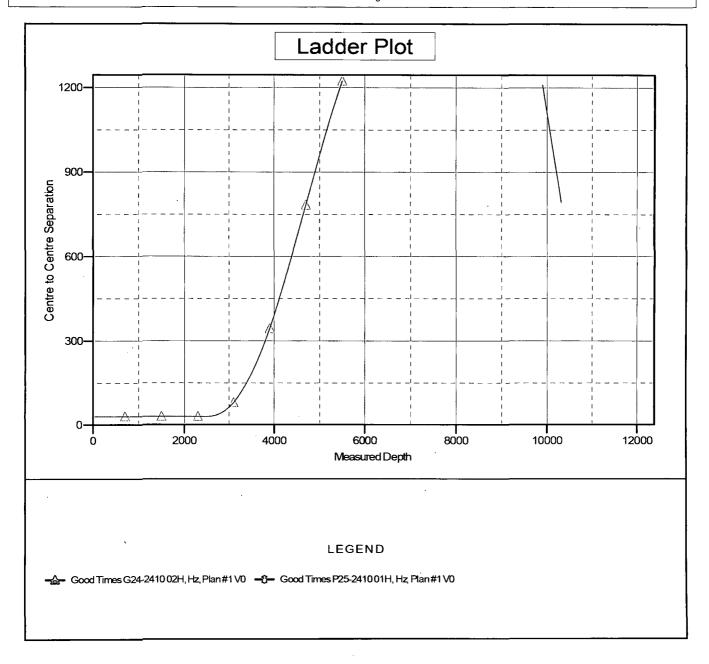
Offset Depths are relative to Offset Datum

Central Meridian is -107.833333 °

Coordinates are relative to: Good Times G24-2410 01H

Coordinate System is US State Plane 1983, New Mexico Western Zone

Grid Convergence at Surface is: -0.01°



SHL: SWNE Section 24, T24N, R10W

2048 FNL and 1701 FEL

BHL: SENW Section 25, T24N, R10W

2311 FNL and 660 FEL San Juan County, New Mexico

Lease Number: NM 62973 and NM 5991

Topsoil will not be stripped when soils are moisture-saturated or frozen below the stripping depth.

If the location becomes prone to wind or water erosion, Encana will take appropriate measures to prevent topsoil loss from wind. Such measures may include using tackifiers or water to wet the topsoil stockpile so that a crust is created across the exposed soil to prevent soil loss.

All construction materials for the well pad will consist of native borrow and subsoil
accumulated during well pad construction. If additional fill or surfacing material is required, it
will be obtained from existing permitted or private sources and will be hauled in by trucks over
existing access roads.

The maximum cut will be approximately 10.4 feet on corner 6 and the maximum fill will be approximately 11.2 feet on corner 3.

- 4. As determined during the onsite on July 08, 2014, the following best management practices will be implemented:
  - a. Water will be diverted around the well pad above the cut from corner #6 toward corner #2 and around toward corner #3 and also from corner #6 toward corner #5.
  - b. 2 silt traps will be constructed in the EOD near corner #5 and also in the EOD near corner #3.
  - c. A 24-inch culvert will be installed at the proposed well pad entrance.
  - d. A 24-inch culvert will be installed in the drainage near STA 4+25 and will drain into the 30' x 50' silt trap.
- 5. Construction equipment may include chain saws, a brush hog, scraper, maintainer, excavator, and dozer. Construction for the access road and well pad will take approximately 3 weeks.

## C. Pipeline

See the initial Standard SF-299 Application for authorization to construct, operate, maintain and terminate a 2388 foot, up to 6-inch outside diameter, buried steel well connect pipeline that was submitted to the Bureau of Land Management on June 19, 2014.

### 7. METHODS FOR HANDLING WASTE

#### A. Cuttings

- 1. A closed-loop system will be used. Cuttings will be moved through a shaker system on the drill rig that separates drilling fluids from the cuttings. Cuttings will be stored onsite in above-ground storage tanks. Cuttings will be pulled from the storage tanks, mixed with saw dust or similar absorbent material, and disposed of at the Envirotech, Inc. and/or Industrial Ecosystem, Inc. waste disposal facilities.
- 2. The closed-loop system storage tanks will be adequately sized to ensure confinement of all fluids and will provide sufficient freeboard to prevent uncontrolled releases.
- 3. A 20-mil liner will be installed under tanks, pumps, ancillary facilities, and truck loading/unloading areas associated with the closed-loop system.

SHL: SWNE Section 24, T24N, R10W

2048 FNL and 1701 FEL

BHL: SENW Section 25, T24N, R10W

2311 FNL and 660 FEL San Juan County, New Mexico

Lease Number: NM 62973 and NM 5991

#### B. Drilling Fluids

- A closed-loop system will be used. Drilling fluids will be stored onsite in above-ground storage tanks. Upon termination of drilling operations, the drilling fluids will be recycled and transferred to other permitted closed-loop systems or returned to the vendor for reuse, as practical. Residual fluids will be vacuumed from the storage tanks and disposed of at Basin Disposal, Inc. and/or Industrial Ecosystem, Inc. waste disposal facilities.
- 2. The closed-loop system storage tanks will be adequately sized to ensure confinement of all fluids and will provide sufficient freeboard to prevent uncontrolled releases.
- 3. The closed-loop system storage tanks will be placed in bermed secondary containment sized to accommodate a minimum of 110 percent of the volume of the largest storage tank.
- 4. A 20-mil liner will be installed under tanks, pumps, ancillary facilities, and truck loading/unloading areas associated with the closed-loop system.

### C. Flowback Water

- 1. The water-based solution that flows back to the surface during and after completion operations will be placed in storage tanks on the location.
- 2. Flowback water will be confined to a storage tank for a period not to exceed 90 days after initial production and will be disposed of at Basin Disposal, Inc. and/or Industrial Ecosystem, Inc. waste disposal facilities.
- D. Spills any spills of non-freshwater fluids will be immediately cleaned up and removed to an approved disposal site.
- E. Sewage self-contained, chemical toilets will be provided for human waste disposal. The toilet holding tanks will be pumped, as needed, and the contents thereof disposed of in an approved sewage disposal facility. The toilets will be onsite during all operations.
- F. Garbage and other waste material garbage, trash and other waste materials will be collected in a portable, self-contained and fully-enclosed trash container during drilling and completion operations. The accumulated trash will be removed, as needed, and will be disposed of at an authorized sanitary landfill. No trash will be buried or burned on location.
- G. Immediately after removal of the drilling rig, all debris and other waste materials not contained in the trash container will be cleaned up and removed from the well location.
- H. No chemicals subject to reporting under SARA Title III in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing or completing of this well.
- No extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completing of this well.

## 8. ANCILLARY FACILITIES

A. Standard drilling operation equipment that will be on location includes: drilling rig with associated equipment, temporary office trailers equipped with sleeping quarters for essential company personnel, toilet facilities, and trash containers.

## **ENCANA OIL & GAS (USA) INC.**

GOOD TIMES G24-2410 #01H
2067' FNL & 1725' FEL
LOCATED IN THE SW/4 NE/4 OF SECTION 24,
T24N, R10W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

## **DIRECTIONS**

- 1) FROM THE INTERSECTION OF HWY 64 & HWY 550 IN BLOOMFIELD, GO SOUTH ON HWY 550, 28.2 MILES TO HWY 57 (M.P. 123.4).
- 2) TURN RIGHT ON HWY 57 AND GO 7.2 MILES.
- 3) TURN LEFT AND GO 1.1 MILES TO "Y" INTERSECTION.
- 4) TURN LEFT AND 0.7 MILES TO "Y" INTERSECTION.
- 5) TURN RIGHT AND GO 0.9 MILES TO "T" INTERSECTION.
- 6) TURN LEFT AND GO 1.4 MILES.
- 7) TURN LEFT AND GO TO SOUTHSIDE OF WELL PAD WHERE ACCESS IS STAKED.

WELL FLAG LOCATED AT LAT. 36.301096° N, LONG.107.845064° W (NAD 83).



Scorpion Survey & Consulting, L.L.C. 302 South Ash Aztec, New Mexico 87410 (505) 334-4007

