State of New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez

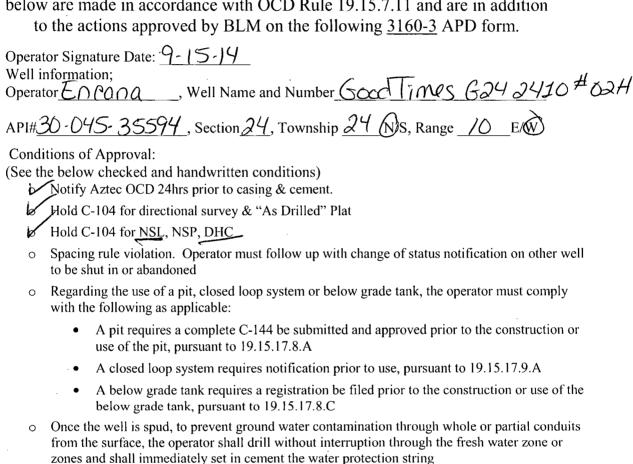
Governor

David Martin

Cabinet Secretary-Designate

Brett F. Woods, Ph.D.





NMOCD Approved by Signature

Communication to be reported in accordance with 19.15.29.8.

solids must be contained in a steel closed loop system.

1220 South St. Francis Drive - Santa Fe, New Mexico 87505 Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.state.nm.us/ocd

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

Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore

Form 3160 -3 (March 2012)

SEP 18 2014

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

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

5. Lease Serial No. NM 5991 & NMM-62973 NMNM 5991

APPLICATION FOR PERMIT TO D	6.][[Indian, Allotec or Tribe Name N/A							
la. Type of work: DRILL REENTER			 -	7 If Unit or CA Agreement, Name and No. PENDING				
lb. Type of Well: ☐ Oil Well	Ib. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone							
2. Name of Operator Encana Oil & Gas (USA) Inc.				9. API Well No. 30-645	35594			
3a. Address 370 17th Street, Suite 1700	b. Phone No.	(include area code)		10. Field and Pool, or Expl	oratory			
Denver, CO 80202	720-876-59	94		Basin Mancos Gas/Bis	ti Lower-Gallup			
4. Location of Well (Report location clearly and in accordance with any	State requireme	ents. *)		11. Sec., T. R. M. or Blk.a	nd Survey or Area			
At surface 2048' FNL and 1701' FEL Section 24, T24N, R	10W Su	341		Section 24 & 25, T24N	I, R10W NMPM			
At proposed prod. zone 2311' FNL and 660' FEL Section 25,	_							
14. Distance in miles and direction from nearest town or post office* +/- 39.5 miles south from intersection of US Hwy 550 and U	S Hwy 64 ir	n Bloomfield, NM		12. County or Parish San Juan	13. State			
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 17. Spacin		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	19. Proposed			BIA Bond No. on file				
	5184' TVD/ 10,504' MD COB-00			OIL CONS. DIV DIS				
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6932' GL; 6948' KB	22. Approxir 4/ 01/201	nate date work will sta 5	rt*	23. Estimated duration 20 days	NOV 0 3 2014			
	24. Attac	hments						
The following, completed in accordance with the requirements of Onshore	Oil and Gas	Order No.1, must be a	ttached to th	is form:				
 Well plat certified by a registered surveyor. A Drilling Plan. 		Item 20 above).	•	ons unless covered by an exis	sting bond on file (see			
 A Surface Use Plan (if the location is on National Forest System L SUPO must be filed with the appropriate Forest Service Office). 	ands, the	Operator certific Such other site BLM.		ormation and/or plans as ma	y be required by the			
25. Signature		(Printed/Typed)		Dat	° 1 - 1 . 1			
Shaa In	Shanr	non Turk			4/15/14			
Title Regulatory Analyst					/ / .			
Approved by (Signature) Men lee was	Name	(Printed/Typed)		Da	30/14			
Title AFM	Office	FFC	 					
Application approval does not warrant or certify that the applicant holds	legal or equit	able title to those righ	its in the sul	oject lease which would entitl	e 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)

conduct operations thereon.

Conditions of approval, if any, are attached

*(Instructions on page 2)

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

NWOCDA

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

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

3

Form C-102 State of New Mexico 1625 N. French Dr., Hobbs, N.M. 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 Revised August 1, 2011 Energy, Minerals & Natural Resources Department DISTRICT II 811 S. First St., Artesia, N.M. 68210 Phone: (575) 748-1283 Fax: (575) 748-9720 Submit one copy to appropriate District Office SEP 18 2014 OIL CONSERVATION DIVISION DISTRICT III 1000 Rio Brazos Rd., Aztec, N.M. 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 1220 South St. Francis Dr. Santa Fe, NM 87505 DISTRICT IV AMENDED REPORT 1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3480 Fax: (505) 476-3482 WELL LOCATION AND ACREAGE DEDICATION PLAT API Number ² Pool Code ^a Pool Name 30-045 BASIN MANCOS GAS / BISTI LOWER-GALLUP 97232 / 5890 ⁶ Well Number Property Code ⁵Property Name OIL CONS. DIV DIST. 3 38 GOOD TIMES G24-2410 02H OGRID No. Operator Name Elevation NOV 0 3 2014 ENCANA OIL & GAS (USA) INC. 282327 6931.7' ¹⁰ Surface Location UL or lot no. North/South line Township Range Feet from the Section Lot Idn Feet from the WEST/West line County 2048' NORTH 24N 10W 1701' **EAST** SAN JUAN 24 ¹¹ Bottom Hole Location If Different From Surface Lot Idn Feet from the North/South line UL or lot no. Section Township Range Feet from the WEST/West line County 2311 **NORTH** EAST н 25 24N 10W SAN JUAN 660, 14 Consolidation Code Dedicated Acres PROJECT AREA Joint or Infill 16 Order No. 320.00 ACRES SE/4 SEC. 24 100 Wayes Massally 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 S 89'47'54" W 5211.03' (M) 18 17 OPERATOR CERTIFICATION 1 LAT. 36.292203 N (NAD83) 5211.36 S 89'50' W 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 or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this 2 LAT. 36.277666 N (NAD83) € LONG. 107.856981' W (NAD83) well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary 0.07,54 2 .90' LAT. 36.277654° N (NAD27) pooling agreement or a compulsory pooling order heretofore entered by the division. LONG. 107.856364' W (NAD27) WF 3 LAT. 36.292238 N (NAD83) LONG. 107.848071" W (NAD83) LAT. 36.292226 N (NAD27) Signature LONG. 107.847454' W (NAD27) +.69 1391.70 4 LAT. 36.292273' N (NAD83) Shannon Turk LONG. 107.839186 W (NAD83) æ. Printed Name LAT. 36.292261 N (NAD27) 6 BASIN MANCOS GAS LONG. 107.838569' W (NAD27) BISTI LOWERshannon.turk@encana.com 5 LAT. 36.277765' N (NAD83) LONG. 107.839174' W (NAD83) > 3 GALLUP 9 E-mail Address O LAT. 36.277753° N (NAD27) œ œ S 89'44'02" W SURVEYOR CERTIFICATION LONG. 107.838557 W (NAD27) 2620.79' (M) I 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 LAT. 36.301147 N (NAD83) by me or under my supervision, and that the same is true and correct to the best of my belief. LONG. 107.844985' W (NAD83) $\widehat{\mathbb{R}}_{\widehat{\mathbb{R}}}$ LAT. 36.301136 N (NAD27) \$ 89'43'22" LONG. 107.844368' W (NAD27) **APRIL 5, 2013** 2618.24' (M) 92' Date of Survey S 89'45' W 2619.87' (R) BASIN ENTRY POINT Signature 5291 LAT. 36.298618' N (NAD83) NEW MENTS MANCOS GAS & LONG. 107.841443' W (NAD83) LAT. 36.298607° N (NAD27) LONG. 107.840826 W (NAD27) ш 5281.34' 5284.62' () 0.04 POEESSIONAL LAND BOTTOM HOLE LAT. 36.285915' N (NAD83) LONG. 107.841420' W (NAD83) ALL CORNERS FND 2½" BC GLO 1932 LAT. 36.285903' N (NAD27) LONG. 107.840803° W (NAD27) ² DAVID_RUSSEL **⊕**5 Certificate Number 10201 \$ 89'37' W 5248.32' (R) \$ 89'36'48" W 5248.85' (M)

SHL: 2048' FNL & 1701' FEL Sec 24 T24N R10W BHL: 2311' FNL & 600' FEL Sec 25 T24N R10W

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	4,800
Gallup Fn.	5,070
Base Gallup	5,369

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	4,800
Oil/Gas	Gallup Fn.	5,070

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

SHL: 2048' FNL & 1701' FEL Sec 24 T24N R10W BHL: 2311' FNL & 600' FEL Sec 25 T24N R10W

San Juan, New Mexico

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.
- 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).
- I) 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 (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'-5464'	8 3/4"	7"	26#	J55, LTC New
Production Liner	5364'-10504'	6 1/8"	4 1/2"	11.6#	B80*, LTC New

	Casir	g String	9	Ca	sing Strengt	Minimum Design Factors			
Size	ze Weight Grade Connectio		Collapse	Burst (psi)	Tensile (1000lbs)	Collapse	Burst	Tensio	
	(ppf)		n	(psi)					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

^{*}B80 pipe specifications are attached

Casing design is subject to revision based on geologic conditions encountered

SHL: 2048' FNL & 1701' FEL Sec 24 T24N R10W BHL: 2311' FNL & 600' FEL Sec 25 T24N R10W

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 (MD)	Cement Volume (sacks)	Cement Type & Yield	Designed TOC	Centralizers
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'-5464'	100% open hole excess Stage 1 Lead: 725 sks Stage 1 Tail: 550 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	5364'- 10504'	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 2500'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation		
Horizontal Lateral TD	5184'/10504'	Gallup		

SHL: 2048' FNL & 1701' FEL Sec 24 T24N R10W BHL: 2311' FNL & 600' FEL Sec 25 T24N R10W

San Juan, New Mexico

6. DRILLING FLUIDS PROGRAM

a) Surface through Intermediate Casing Point:

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	Viscosity (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'-5170'/5464	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)
	5170'/5464'-				
6 1/8"	5184'/10504'	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.
- 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. 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 with the Surface Use Plan of Operations.

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 +/- 2485 psi based on a 9.0 ppg at 5310' TVD of the horizontal lateral target. No abnormal pressure or temperatures are anticipated.

No hydrogen sulfide gas is anticipated, however, if H₂S 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: 2048' FNL & 1701' FEL Sec 24 T24N R10			End	ana Natural Gas			ENG: Michael Sanch	9/16/14	
county: San								RIG: Unassigned	
WELL: GOOD	Times G24-2	410 02H		١	WELL SUMMARY			GLE: 6931.7 RKBE: 6947.7	
MWD	OPEN HOLE		DEPTH			HOLE	CASING	MIN	DEVIATION
LWD	LOGGING	FORM	TVD	MD		SIZE	SPECS	MUD TYPE	INFORMATION
			60	60°		26	16" 42.09# 100sx Type I Neat 16.0ppg cmt	Fresh wtr 8,3-9,2	
Multi-Well pad - take survey every stand and run anti-	, None	San Jose Fn.	0				9 5/8" 36ppf J55 STC	Fresh wtr	Vertical
collision report prior to spud		Nacimiento Fn. 9 5/8" Csg	surface 500	500.00		12 1/4	TOC Surface with 100% OH Excess: 276 sks Type III Cement + 1% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.2% bwoc FL-52A + 58.9% Fresh Water.	8.3-10	<1°
		Ojo Alamo Ss. Kirtland Shale	830 982				7" 26ppf J55 LTC	Fresh Wtr	
Survey Every 60'-120', updating anticollision	No OH logs	Fruitland Coal Pictured Cliffs Ss. Lewis Shale	1,294 1,625 1,796			8 3/4	TOC @ surface (100% OH excess - 70% Lead 30% Tail) Stage 1 Total: 1275sks	8.3-10	Vertical <1°
report after surveys. Stop operations and contact drilling engineer if		Cliffhouse Ss. Menefee Fn. Point Lookout Ss.	2,369 3,119 3,994				Stage 1 Lead: 725 sks Premium Lite FM + 3% CaCl2 + 0.25/sk Cello Flake + 5#/sk LCM-1 + 8% Bentonite + 0.4%		
separation factor approaches 1.5	Mud logger	Mancos Shale KOP	4,236 2,500	2,500			FL-52A + 0.4% Sodium Metasilicate. Mixed at 12.1 ppg. Yield 2.13 cuft/sk. Stage 1 Tail: 550 sks Type III Cement +		
Surveys every 30' through the curve	onsite	Mancos Silt	4,800				1% CaCl2 + 0.25#sk Cello Flake + 0.2% FL-52A, Mixed at 14.6 ppg. Yield 1.38 cuft/sk.		
		Gallup Fn.	5,070						
		7" Csg	5,170	5,464'	// //	\Box			Horz Inc/TVD
Surveys every stand to TD		Horizontal Target	5,310		//	6 1/8	100' overlap at liner top		91.3deg/5309.7ft
unless directed otherwise by	No OH Logs	TD Base Gallup	5,184 5,369	10,504		$\overline{}$	5039' Drilled Lateral	WBM	TD = 10503.5 MD
Geologist	***************************************	·	, ,				4 1/2" 11.6ppf SB80 LTC	8.3-10	
							TOC @ hanger (50% OH excess) Stage 1 Total: 279sks		
MWD 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 cutl/sk.		

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 2500', 8 3/4 inch holesize
- 5) Start curve at 10deg/100' build rate
- 6) Drill to csg point of 5464' MD
- 7) R&C 7" csg, circ cmt to surface
- 8) Land at ~90 deg, drill lateral to 10504' run 4 1/2 inch cemented liner

Project: San Juan County, NM encana Site: S24-T24N-R10W Well: Good Times G24-2410 02H Wellbore: Hz CATHEDRAL Design: Plan #1 SECTION DETAILS -2000 MD 0.0 2500.0 3933.0 5073.5 5878.1 TVD 0.0 2500.0 3873.9 4874.8 TFace 0.00 0.00 112.69 0.00 69.18 0.00 VSect 0.0 0.0 135.9 347.6 922.2 5546.5 0.00 0.00 28.66 28.66 91.30 91.30 Azi 0.00 0.00 112.69 112.69 179.91 +N/-S 0.0 0.0 -135.4 -346.3 -920.6 Dleg 0.00 0.00 2.00 0.00 10.00 Sec +E/-W 0.0 0.0 323.8 828.5 1043.7 12345 -1500 1050.7 0.00 -1000 2000 -500 KOP @ 2500 1000 EOB: Inc=28.66 Surface Hole Location Good Times G24-2410 02H Lat: 36.301147 Long: -107.844985 2048 0 0 9 5/8 ICP @ 55 500 South(-)/North(+) (1700 usft/in) LP @ 5289' TVD; 91.3° 4 660 ▶ -1000 Oio Alamo Sa 1000 Kirtland Shale TARGET LINE 5310' TVD @ 0' VS; 91.3" GT G24-2410 02H POE Fruitland Coa -2000 1500 2313 Frue Vertical Depth (1000 usft/in) Pictured Cliffs Ss Lewis Shale 2000 -3000 2500 KOP @ 2500' S25-T24N-R10W -4000 2311 3000 GT G24-2410 02H PBHL -5000 **4**660 ▶ 3500 1050 TD at 10503.5 EOB: Inc≈28.66 -3000 2000 -4000 -2000 -1000 1000 3000 4000 Point Lookout Ss West(-)/East(+) (1700 usft/in) Mancos Shale DESIGN TARGET DETAILS Name GT G24-2410 02H PBHL GT G24-2410 02H POE +N/-S -5544.8 Northing 1923372.53 Easting 2720708.40 Latitude 36.285915 Longitude -107.841420 4500 Start build/turn @ 5073' MD -920 f 1927996.75 2720702.0 36 298618 -107 841443 7" ICP @ 55° GT G24-2410 02H POE GT G24-2410 02H PBHL 5000 LP @ 5289' TVD; 91.3' Horizontal Target - Base Gallup FORMATION TOP DETAILS CASING DETAILS 5500 MD Name 9 5/8" 7" ICP @ 55° MDPath Formation TVD **TVDPath** Formation
Ojo Alamo Ss.
Kirtland Shale
Fruitland Coal
Pictured Cliffs Ss.
Lewis Shale
Cliffhouse Ss.
Menefee Fn.
Point Lookout Ss.
Mancos Shale
Mancos Silt
Gallup Fn. 830.0 982.0 1294.0 1625.0 1796.0 500.0 5464.3 830.0 982.0 1294.0 1625.0 1796.0 2369.0 3118.4 3990.4 4231.2 4792.5 5060.2 5289.2 M Azimuths to True North Magnetic North: 9.49 6000 Magnetic Field Strength: 50157,9snT Plan #1 1796.0 2369.0 3123.3 4065.6 4340.1 4979.8 Good Times G24-2410 02H 14xxx; LR Dip Angle: 63,00° Date: 8/6/2014 Model: IGRF2010 14xxx; LR 16' KB @ 6948.0usft (Aztec) Ground Elevation @ 6932.0 North American Datum 1983 Well Good Times G24-2410 02H, True North 6500 Gallup Fn. Horizontal Target 5299.1 5872.1 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 -1000 -500 Ó Vertical Section at 179.91° (1000 usft/in)

Database:

USA EDM 5000 Multi Users DB

Company:

EnCana Oil & Gas (USA) Inc

Project:

San Juan County, NM

Site: Well: S24-T24N-R10W

Good Times G24-2410 02H

Wellbore: Design:

Hz Plan #1 Local Co-ordinate Reference:

TVD Reference:

MD Reference: North Reference:

Survey Calculation Method:

Well Good Times G24-2410 02H

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

True

Minimum Curvature

Project

San Juan County, NM

Map System:

US State Plane 1983

Geo Datum: Map Zone:

North American Datum 1983 New Mexico Western Zone

System Datum:

Mean Sea Level

S24-T24N-R10W

Site Position:

Northing:

1,928,556.02 usft

Latitude:

36.300153

From:

Lat/Long

Easting:

2,717,274.54 usft 13-3/16"

Longitude:

-107.853075

Position Uncertainty:

Slot Radius:

Grid Convergence:

-0.01 °

Well

Good Times G24-2410 02H

Well Position

+N/-S +E/-W 0.0 usft 0.0 usft 0.0 usft

0.0 usft

Northing: Easting:

Wellhead Elevation:

2,719,658.40 usft

1,928,917.48 usft

Latitude: Longitude: 36.301147

Position Uncertainty

0.0 usft

Ground Level:

-107.844985 6,932.0 usft

Wellbore Hz **Model Name** Sample Date Dip Angle Magnetics Declination Field Strength (°) (nT) IGRF2010 8/6/2014 9.49 63.00 50,158

Design **Audit Notes:** Version:

Plan #1

Vertical Section:

Phase:

Depth From (TVD)

(usft)

0.0

PLAN

+N/-S

(usft)

0.0

Tie On Depth:

+E/-W

(usft)

0.0

0.0

Direction (°)

179.91

an Sections			•							
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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,933.0	28.66	112.69	3,873.9	-135.4	323.8	2.00	2.00	0.00	112.69	
5,073.5	28.66	112.69	4,874.8	-346.3	828.5	0.00	0.00	0.00	0.00	
5,878.1	91.30	179.91	5,289.1	-920.6	1,043.7	10.00	7.79	8.36	69.18	GT G24-2410 02H F
10,503.5	91.30	179.91	5,184.1	-5,544.8	1,050.7	0.00	0.00	0.00	0.00	GT G24-2410 02H F

Database:

USA EDM 5000 Multi Users DB

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

Site:

S24-T24N-R10W Good Times G24-2410 02H

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

TVD Reference: MD Reference:

North Reference:

Survey Calculation Method:

Well Good Times G24-2410 02H

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

True

Minimum Curvature

Planned Survey

	Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Comments /	
	(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft	(°/100u		
ľ	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	1,5 T T 100 , All	 **********
l	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		
ı	300.0	0.00	0.00	300.0	0.0	0.0	. 0.0	0.00	0.00		
l	400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00		
1											
	500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00		9 5/8"	
	600.0	0.00	0.00	6.00.0	0.0	0.0	0.0	0.00	0.00		
	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	0: 41 0	
	830.0	0.00	0.00	830.0	0.0	0.0	0.0	0.00	0.00	Ojo Alamo Ss.	
ł	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	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	1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00		
1	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	Trulliand Coar	
	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	1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00		
ĺ											
	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	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		
ĺ	2,500.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	KOP @ 2500'	
	2,600.0	2.00	112.69	2,600.0	-0.7	1.6	0.7	2.00	2.00	KOF @ 2300	
	2,700.0	4.00	112.69	2,699.8	-2.7	6.4	2.7	2.00	2.00		
	2,800.0	6.00	112.69	2,799.4	-6.1	14.5	6.1	2.00	2.00		
1											
١	2,900.0	8.00	112.69	2,898.7	-10.8	25.7	10.8	2.00	2.00		
١	3,000.0	10.00	112.69	2,997.5	-16.8	40.2	16.8	2.00	2.00		
İ	3,100.0	12.00	112.69	3,095.6	-24.1	57.8	24.2	2.00	2.00		
l	3,123.3	12.47	112.69	3,118.4	-26.0	62.3	26.1	2.00		Menefee Fn.	
	3,200.0	14.00	112.69	3,193.0	-32.8	78.5	32.9	2.00	2.00		
	3,300.0	16.00	112.69	3,289.6	-42.8	102.4	43.0	2.00	2.00		
	3,400.0	18.00	112.69	3,385.3	-54.1	129.4	54.3	2.00	2.00		
	3,500.0	20.00	112.69	3,479.8	-66.6	159.4	66.9	2.00	2.00		
	3,600.0	22.00	112.69	3,573.2	-80.5	192.5	80.8	2.00	2.00		
	3,700.0	24.00	112.69	3,665.2	-95.5	228.5	95.9	2.00	2.00		
	3,800.0	26.00	112.69	3,755.8	-111.8	267.5	112.2	2.00	2.00		
	3,900.0	, 28.00	112.69	3,844.9	-129.3	309.4	129.8	2.00	2.00		
	3,933.0	28.66	112.69	3,873.9	-135.4	323.8	135.9	2.00		EOB: Inc=28.66°	
	4,000.0	28.66	112.69	3,932.8	-147.8	353.5	148.3	0.00	0.00		
	4,000.0	28.66	112.69	3,990.4	-159.9	382.5	160.5	0.00		Point Lookout Ss.	
-										,	
1	4,100.0	28.66	112.69	4,020.5	-166.3	397.7	166.9	0.00	0.00		
L	4,200.0	28.66	112.69	4,108.3	-184.8	442.0	185.5	0.00	0.00		

Database:

USA EDM 5000 Multi Users DB

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

Site: , Well:

S24-T24N-R10W Good Times G24-2410 02H

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

TVD Reference:
MD Reference:
North Reference:

16' KB @ 6948.0usft (Aztec)

16°

Survey Calculation Method:

True Minimum Curvature

Well Good Times G24-2410 02H

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
4,300.0	28.66	112.69	4,196.0	-203.3	486.2	204.0	0.00	0.00	
4,340.1	28.66	112.69	4,231.2	-210.7	504.0	211.5	0.00		Mancos Shale
4,400.0	28.66	112.69	4,283.8	-221.8	530.5	222.6	0.00	0.00	
4,500.0	28.66	112.69	4,371.5	-240.2	574.7	241.2	0.00	0.00	
4,600.0	28.66	112.69	4,459.3	-258.7	619.0	259.7	0.00	0.00	
4,700.0	28,66	112.69	4,547.0	-277.2	663.2	278.3	0.00	0.00	
4,800.0	28.66	112.69	4,634.8	-295.7	707.5	296.9	0.00	0.00	
4,900.0	28.66	112.69	4,722.5	-314.2	751.7	315.4	0.00	0.00	
			-					•	
4,979.8	28.66	112.69	4,792.5	-329.0	787.0	330.2	0.00		Mancos Silt
5,000.0	28.66	112.69	4,810.3	-332.7	796.0	334.0	0.00	0.00	0
5,073.5	28.66	112.69	4,874.8	-346.3	828.5	347.6	0.00		Start build/turn @ 5073' MD
5,100.0	29.70	117.69	4,897.9	-351.8	840.2	353.2	10.00	3.91	
5,200.0	35.03	133.58	4,982.5	-383.2	883.0	384.6	10.00	5.33	
5,299.1	41.85	145.21	5,060.2	-430.1	922.6	431,6	10.00	6.88	Gallup Fn.
5,300.0	41.91	145.29	5,060.8	-430.6	922.9	432.0	10.00	7.41	
5,400.0	49.69	154.08	5,130.6	-492.5	958.7	494.0	10.00	7.78	
5,464.3	54.99	158.70	5,169.9	-539.1	979.0	540.7	10.00		7" ICP @ 55°
5,500.0	58.00	161.00	5,189.6	-567.0	989.2	568.6	10.00	8.43	, , , , , , , , , , , , , , , , , , , ,
5,600.0	66.62	166.74	5,236.0	-652.0	1,013.6	653.6	10.00	8.62	
5,700.0	75.42	171.76	5,268.5	-744.8	1,031.1	746.4	10.00	8.80	
5,800.0	84.32	176.40	5,286.1	-842.6	1,041.2	844.2	10.00	8.90	
5,872.1	90.76	179.64	5,289.2	-914.5	1,043.7	916.2	10.00		Horizontal Target
5,878.1	91.30	179.91	5,289.1	-920.6	1,043.7	922.2	10.00	8.94	LP @ 5289' TVD; 91.3° - GT G24-2410 02H
5,900.0	91.30	179.91	5,288.6	-942.5	1,043.7	944.1	0.00	0.00	
6,000.0	91.30	179.91	5,286.3	-1,042.4	1,043.9	1,044.1	0.00	0.00	
6,100.0	91.30	179.91	5,284.1	-1,142.4	1,044.0	1,144.0	0.00	0.00	
6,200.0	91.30	179.91	5,281.8	-1,242.4	1,044.2	1,244.0	0.00	0.00	
6,300.0	91.30	179.91	5,279.5	-1,342.3	1,044.3	1,344.0	0.00	0.00	
6,400.0	91.30	179.91	5,277.3	-1,442.3	1,044.5	1,444.0	0.00	0.00	
6,500.0	91.30	179.91	5,275.0	-1,542.3	1,044.6	1,543.9	0.00	0.00	
6,600.0	91.30	179.91	5,272.7	-1,642.3	1,044.8	1,643.9	0.00	0.00	
6,700.0	91.30	179.91	5,272.7	-1,742.2	1,044.8	1,743.9	0.00	0.00	
6,800.0	91.30	179.91	5,268.2	-1,842.2	1,045.1	1,843.9	0.00	0.00	
6,900.0	91.30	179.91	5,265.9	-1,942.2	1,045.2	1,943.8	0.00	0.00	
7,000.0	91.30	179.91	5,263.6	-2,042.2	1,045.4	2,043.8	0.00	0.00	
7,100.0	91.30	179.91	5,261.4	-2,142.1	1,045.6	2,143.8	0.00	0.00	
7,200.0	91.30	179.91	5,259.1	-2,242.1	1,045.7	2,243.8	0.00	0.00	
7,300.0	91.30	179.91	5,256.8	-2,342.1	1,045.9	2,343.7	0.00	0.00	
7,400.0	91.30	179.91	5,254.6	-2,442.1	1,046.0	2,443.7	0.00	0.00	
7,500.0	91.30	179.91	5,252.3	-2,542.0	1,046.2	2,543.7	0.00	0.00	
7,600.0	91.30	179.91	5,250.0	-2,642.0	1,046.3	2,643.6	0.00	0.00	
7,700.0	91.30	179.91	5,247.7	-2,742.0	1,046.5	2,743.6	0.00	0.00	
7,800.0	91.30	179.91	5,245.5	-2,842.0	1,046.6	2,843.6	0.00	0.00	
				-2,941.9	1 046 9	2,943.6	0.00	0.00	
7,900.0	91.30	179.91	5,243.2		1,046.8		0.00	0.00	
8,000.0	91.30	179.91	5,240.9 5,239.7	-3,041.9	1,046.9	3,043.5 3,143.5		0.00	
8,100.0	91.30	179.91	5,238.7	-3,141.9	1,047.1		0.00		
8,200.0	91.30	179.91	5,236.4	-3,241.9	1,047.2	3,243.5	0.00	0.00	
8,300.0	91.30	179.91	5,234.1	-3,341.8	1,047.4	3,343.5	0.00	0.00	
8,400.0	91.30	179.91	5,231.9	-3,441.8	1,047.5	3,443.4	0.00	0.00	
8,500.0	91.30	179.91	5,229.6	-3,541.8	1,047.7	3,543.4	0.00	0.00	
8,600.0	91.30	179.91	5,227.3	-3,641.7	1,047.8	3,643.4	0.00	0.00	
8,700.0	91.30	179.91	5,225.0	-3,741.7	1,048.0	3,743.4	0.00	0.00	

Database:

USA EDM 5000 Multi Users DB

Company:

EnCana Oil & Gas (USA) Inc

Project:

San Juan County, NM

Site: Well:

Targets

GT G24-2410 02H POE

- plan hits target center

0.00

0.00

5,289.1

S24-T24N-R10W ' Good Times G24-2410 02H

Wellbore: Hz Plan #1 Design:

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Well Good Times G24-2410 02H

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

True

Minimum Curvature

Planned Survey	

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
8,800.0	91.30	179.91	5,222.8	-3,841.7	1,048.1	3,843.3	0.00	0.00	
8,900.0	91.30	179.91	5,220.5	-3,941.7	1,048.3	3,943.3	0.00	0.00	
9,000.0	91.30	179.91	5,218.2	-4,041.6	1,048.4	4,043.3	0.00	0.00	
9,100.0	91.30	179.91	5,216.0	-4,141.6	1,048.6	4,143.3	0.00	0.00	
9,200.0	91.30	179.91	5,213.7	-4,241.6	1,048.7	4,243.2	0.00	0.00	
9,300.0	91.30	179.91	5,211.4	-4,341.6	1,048.9	4,343.2	0.00	0.00	
9,400.0	91.30	179.91	5,209.2	-4,441.5	1,049.0	4,443.2	0.00	0.00	
9,500.0	91.30	179.91	5,206.9	-4,541.5	1,049.2	4,543.2	0.00	0.00	
9,600.0	91.30	· 179.91	5,204.6	-4,641.5	1,049.3	4,643.1	0.00	0.00	
9,700.0	91.30	179.91	5,202.3	-4,741.5	1,049.5	4,743.1	0.00	0.00	
9,800.0	91.30	179.91	5,200.1	-4,841.4	1,049.6	4,843.1	0.00	0.00	
9,900.0	91.30	179.91	5,197.8	-4,941.4	1,049.8	4,943.1	0.00	0.00	
10,000.0	91.30	179.91	5,195.5	-5,041.4	1,049.9	5,043.0	0.00	0.00	
10,100.0	91.30	179.91	5,193.3	-5,141.4	1,050.1	5,143.0	0.00	0.00	
10,200.0	91.30	179.91	5,191.0	-5,241.3	1,050.2	5,243.0	0.00	0.00	
10,300.0	91.30	179.91	5,188.7	-5,341.3	1,050.4	5,342.9	0.00	0.00	
10,400.0	91.30	179.91	5,186.5	-5,441.3	1,050.5	5,442.9	0.00	0.00	
10,500.0	91.30	179.91	5,184.2	-5,541.3	1,050.7	5,542.9	0.00	0.00	
10,503.5	91.30	179.91	5,184.1	-5,544.8	1,050.7	5,546.5	0.00	0.00	TD at 10503.5 - GT G24-2410 02H PBHL

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 02H PBHI - plan hits target cen - Point		0.00	5,184.1	-5,544.8	1,050.7	1,923,372.53	2,720,708.40	36.285915	-107.841420

-920.6

- Point					
L ,					
500.0	500.0	9 5/8"	 0	0	
5.464.3	5 160 0	7" ICD @ 55°	n	n	

1,043.7

1,927,996.75

2,720,702.01

-107.841420

-107.841443

36.298618

Database:

USA EDM 5000 Multi Users DB

Company:

EnCana Oil & Gas (USA) Inc

Project: Site: San Juan County, NM S24-T24N-R10W

Well: Wellbore:

Design:

Good Times G24-2410 02H

Hz Plan #1 Local Co-ordinate Reference:

TVD Reference:

MD Reference: North Reference:

Survey Calculation Method:

Well Good Times G24-2410 02H

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

True

Minimum Curvature

ormations	•	•		٠			
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
	830.0	830.0	Ojo Alamo Ss.		-1.30	179.91	
	982.0	982.0	Kirtland 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	
	3,123.3	3,119.0	Menefee Fn.		-1.30	179.91	
	4,065.6	3,994.0	Point Lookout Ss.		-1.30	179.91	
	4,340.1	4,236.0	Mancos Shale		-1.30	179.91	
	4,979.8	4,800.0	Mancos Silt		-1.30	179.91	
	5,299.1	5,070.0	Gallup Fn.		-1.30	179.91	
	5,872.1	5,310.0	Horizontal Target		-1.30	179.91	

lan Annotations		-		
Measure	d Vertical	Local Coor	rdinates	
Depth (usft)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
2,500	2,500.0	0.0	0.0	KOP @ 2500'
3,933	3,873.9	-135.4	323.8	EOB: Inc=28.66°
5,073	3.5 4,874.8	-346.3	828.5	Start build/turn @ 5073' MD
5,878	5,289.1	-920.6	1,043.7	LP @ 5289' TVD; 91.3°
10,503	5,184.1	-5,544.8	1,050.7	TD at 10503.5

EnCana Oil & Gas (USA) Inc

San Juan County, NM S24-T24N-R10W Good Times G24-2410 02H Hz Plan #1

Anticollision Report

06 August, 2014

Company:

EnCana Oil & Gas (USA) Inc

Project:

San Juan County, NM

Reference Site: Site Error:

\$24-T24N-R10W

Reference Well:

0.0usft

Well Error:

Good Times G24-2410 02H

Reference Wellbore

, 0.0usft

Hz Reference Design: Plan #1

TVD Reference: MD Reference:

North Reference:

Local Co-ordinate Reference:

Survey Calculation Method: Output errors are at

Database:

Offset TVD Reference:

. Well Good Times G24-2410 02H

16' KB @ 6948.0usft (Aztec)

, 16' KB @ 6948.0usft (Aztec)

True

Minimum Curvature

. 2.00 sigma

USA EDM 5000 Multi Users DB

Offset Datum

Reference

Plan #1

Filter type:

MD Interval 100.0usft

Interpolation Method: Depth Range:

Unlimited

Maximum center-center distance of 1,236.4usft

Results Limited by: Warning Levels Evaluated at:

2.00 Sigma

10,503.5 Plan #1 (Hz)

NO GLOBAL FILTER: Using user defined selection & filtering criteria Error Model:

Scan Method: Error Surface:

Systematic Ellipse Closest Approach 3D

Elliptical Conic

Survey Tool Program

8/6/2014

From

(usft) 0.0

То (usft)

Survey (Wellbore)

Tool Name Geolink MWD Description

Geolink MWD

Summary

•	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				1 2 41 8 88 94-76		the contract to a contract of the same
Good Times G24-2410 01H - Hz - Plan #1	2,500.0	2,500.0	29.8	21.1	3.434	CC, ES
Good Times G24-2410 01H - Hz - Plan #1	2,600.0	2,600.0	30.7	21.6	3.399	SF
S25-T24N-R10W						
Good Times P25-2410 01H - Hz - Plan #1	10,504.4	5,662.8	791.1	761.4	26.639	CC, ES, SF

EnCana Oil & Gas (USA) Inc Company:

Project: San Juan County, NM

Reference Site: Site Error:

\$24-T24N-R10W

Reference Well:

0.0usft

Good Times G24-2410 02H

Well Error: 0.0usft

Reference Wellbore Plan #1 Reference Design:

Hz

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 02H 16' KB @ 6948.0usft (Aztec)

16' KB @ 6948.0usft (Aztec)

True

Minimum Curvature

2.00 sigma

USA EDM 5000 Multi Users DB

Offset Datum

Survey Prog	ram: 0-G	eolink MWD											Offset Well Error:	0.0 us
Refer		Offs	et	Semi Major	Axis				Dista	ance			Onset West EHUI.	5.0 U
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbor	e 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	-128.57	-18.6	-23,3	29.8					
100.0	100.0	100.0	100.0	0.1	0.1	-128.57	-18,6	-23.3	29.8	29,5	0.29	101.546		
200.0	200.0	200.0	200.0	. 0.3	0.3	-128.57	-18.6	-23.3	29.8	29.1	0.64	46.358		
300.0	300.0	300.0	300.0	0.5	0.5	-128.57	-18.6	-23.3	29.8	28.8	0.99	30.035		
400.0	400.0	400.0	400.0	0.7	0.7	-128.57	-18.6	-23.3	29.8	28.4	1.34	22.213		
500.0	500.0	500.0	500.0	0.8	. 0.8	-128.57	-18.6	-23.3	29.8	28.1	1.69	17.624		
600.0	600.0	600.0	600.0	1.0	1.0	-128.57	-18,6	-23.3	- 29.8	27.7	2.04	. 14.606		
700.0	700.0	700.0	700.0	1.2	1.2	-128,57	-18.6	-23.3	29.8	27.4	2.39	12.471	•	
800.0	800.0	800.0	800.0	1.4	1.4	-128.57	-18.6	-23.3	29.8	27.0	2.74	10.880		
900.0	900.0	900.0	900.0	1.5	1.5	-128.57	-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	-128.57	-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	-128.57	-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	-128.57	-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	-128.57	-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	-128.57	-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	-128.57	-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	-128.57	-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	-128.57	-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	-128.57	-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	-128,57	-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	-128,57	-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	-128.57	-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	-128.57	-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	-128.57	-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	-128.57	-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	-128.57	-18.6	-23.3	29.8	21.1	8.67	3.434 CC, E	:s	
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	121.59	-18.6	-23.3	30.7	21.6	9.02	3,399 SF		
2,700.0	2,699.8	2,699.8	2,699.8	4.7	4.7	129.14	-18.6	-23.3	33.7	24.3	9.36	3.598		
2,800.0	2,799.5	2,799.5	2,799.5	4.9	4.9	138.82	-18.6	-23.3	39.8	30.1	9.70	4.099		
2,900.0	2,898.7	2,898.7	2,898.7	5.1	5.0	148.00	-18.6	-23.3	49.6	39.6	10.03	4.947		
3,000.0	2,997.5	2,997.5	2,997.5	5.3	5.2	155.38	-18.6	-23.3	63.5	53.1	10.34	6.134		
3,100.0	3,095.6	3,095.6	3,095.6	5.5	5.4	160.86	-18.6	-23.3	81.2	70.6	10.65	7.630		
3,200.0	3,193,1	3,193.1	3,193.1	5.8	5.5	164.86	-18.6	-23.3	102.8	91.8	10.94	9.399		
3,300.0	3,289.6	3,289.6	3,289.6	6,1	5.7	167.77	-18.6	-23.3	128.0	116.8	11.21	11.413		
3,400.0	3,385.3	3,385.3	3,385.3	6.5	5.9	169.93	-18.6	-23.3	156.7	145.2	11.48	13.651		
3,500.0	3,479.8	3,479.8	3,479.8	7.0	6.0	171.55	-18,6	-23.3	188.9	177.2	11.73	16.097		
3,600.0	3,573.2	3,571.7	3,571.7	7.5	6.2	172.46	-19.6	-23.8	224.7	212.7	11.98	18.758		
3,700.0	3,665.2	3,661.4	3,661.2	8.0	6.4	172.31	-24.0	-26.1	264.5	252.2	12.22	21.644		
3,800.0	3,755.8	3,748.9	3,748.3	8.7	6.5	171.51	-31.4	-29.9	308.2	295.7	12.46	24.725		
3,900.0	3,844.9	3,833.8	3,832.5	9.4	6.7	170.33	-41.6	-35.1	355.7	343.0	12.72	27.968		
4,000.0	3,932.8	3,916.2	3,913.6	10.2	6.9	169.06	-54.3	-41.7	406.5	393.4	13.08	31.079		
4,100.0	4,020.5	3,997.0	3,992.6	11.0	7.1	167.70	-69.5	-49.5	458.4	444.9	13.52	33.917		
4,200.0	4,108.3	4,076.1	4,069.3	11.8	7.3	166.25	-86.8	-58.4	511.4	497.4	14.00	36.530		
4,300.0	4,196.0	4,153.4	4,143.4	12.6	7.5	164.76	-106.2	-68.4	565.5	551.0	14.53	38.919		
4,400.0	4,283.8	4,228.8	4,214.9	13.5	7.8	163,26	-127,4	-79.3	620.9	605.8	15.11	41.087		
4,500.0	4,371.5	4,302.0	4,283.5	14.3	8.0	161.77	-150.1	-91.0	677.5	661.8	15.74	43.045		
4,600.0	4,459.3	4,379.4	4,355,3	15.2	8.4	160.25	-175.8	-104.2	735.3	718.9	16.45	44.713		
4,700.0	4,547.0	4,459.4	4,429.4	16.1	8.7	158.88	-202.4	-117.9	793.5	776.3	17.19	46.150		
4,800.0	4,634.8	4,539.3	4,503.6	17.0	9.1	157.70	-229.1	-131.6	851.9	834.0	17.96	47.425		
4,900.0	4,722.5	4,619.2	4,577.7	17.8	9.5	156.66	-255,7	-145.3	910.6	891.8	18.75	48.556		
5,000.0	4,810.3	4,699.2	4,651.8	18.7	9.9	155.75	-282.3	-159,0	969.4	949.8	19.56	49.562		
5,100.0	4,897.9	4,779.2	4,726.0	19.6	10,3	148.68	-309.0	-172.8	1,028.3	1,007.6	20.73	49.605		

Company:

EnCana Oil & Gas (USA) Inc

Project:

San Juan County, NM

Reference Site:

S24-T24N-R10W

Site Error:

0.0usft

Reference Well:

Good Times G24-2410 02H

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 02H 16' KB @ 6948.0usft (Aztec)

16' KB @ 6948.0usft (Aztec)

Minimum Curvature

2.00 sigma

USA EDM 5000 Multi Users DB

Offset Datum

Offset Des	•	S24-T2	4N-R10W	- Good Tin	nes G24-2	2410 01H - F	lz - Plan #1						Offset Site Error: Offset Well Error:	0.0 us
Refere	ence	Offse	et	Semi Major	Axis				Dista	nce				
Measured 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	4,982.5	4,860.7	4,801.6	20.6	10.7	128.39	-336.1	-186.7	1,086.0	1,062.9	23.03	47.160		
5,300.0	5,060,8	4,942.3	4,877.2	21.6	11.2	114.02	-363.3	-200.7	1,140.5	1,115.3	25.25	45.177		
5,400.0	5,130.6	5,032.4	4,959.6	22.7	11.8	104.25	-396.2	-216.0	1,190.9	1,163.7	27.26	43.683		
5,500.0	5,189.6	5,138.2	5,048.9	23.8	12.6	97.65	-450.3	-232.5	1,235.4	1,206,1	29.25	42,238		

Company:

EnCana Oil & Gas (USA) Inc

Project:

San Juan County, NM

Reference Site:

S24-T24N-R10W

Site Error:

0.0usft

Reference Well:

Good Times G24-2410 02H

Well Error:

0.0usft

Reference Wellbore

[']Hz

Plan #1 Reference Design:

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 02H 16' KB @ 6948.0usft (Aztec)

16' KB @ 6948.0usft (Aztec)

True

Minimum Curvature

2.00 sigma

USA EDM 5000 Multi Users DB

Offset Datum

Survey Progr Refere		eolink MWD Offse	et	Semi Major	Axís -			0	Offset Well Error:	0.0 t				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbor +N/-S (usft)	re Centre +E/-W (usft)	Dista Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
10,100.0	5,193.3	5,660.5	5,149.0	94.0	23.5	-12.14	-6,335.2	1,058.8	1,195.3	1,162.0	33.34	35.848		·
10,200.0	5,191.0	5,661.1	5,149.0	95.7	23.5	-11.16	-6,335,2	1,058.2	1,095.4	1,062.9	32.44	33.764		
10,300.0	5,188.7	5,661.6	5,149.0	97.4	23.5	-10.18	-6,335.2	1,057.6	995.4	963.9	31.53	31.568		
10,400.0	5,186.5	5,662.2	5,149.0	99.1	23.6	-9.19	-6,335.2	1,057.1	895.5	864.8	30.63	29.239		
10,500.0	5,184.2	5,662.8	5,149.0	100.8	23.6	-8.20	-6,335.2	1,056.5	795.5	765.8	29.74	26.754		
10.504.4	5,184.1	5,662.8	5,149.0	100.9	23.6	-8.16	-6,335.2	1,056.5	791.1	761.4	29.70	26,639 CC, ES	S. SF	

Company: Project:

'EnCana Oil & Gas (USA) Inc

والمناف والمراف والمناف والمناف والمناف

Reference Site:

San Juan County, NM S24-T24N-R10W

Site Error:

0.0usft

Reference Well:

Good Times G24-2410 02H

Well Error:

Reference Wellbore Reference Design:

0.0usft

Hz Plan #1 Local Co-ordinate Reference:

TVD Reference:

Well Good Times G24-2410 02H 16' KB @ 6948.0usft (Aztec) 16' KB @ 6948.0usft (Aztec)

MD Reference:

North Reference:

Survey Calculation Method:

Minimum Curvature

True

Output errors are at

2.00 sigma

Database:

USA EDM 5000 Multi Users DB

Offset Datum Offset TVD Reference:

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

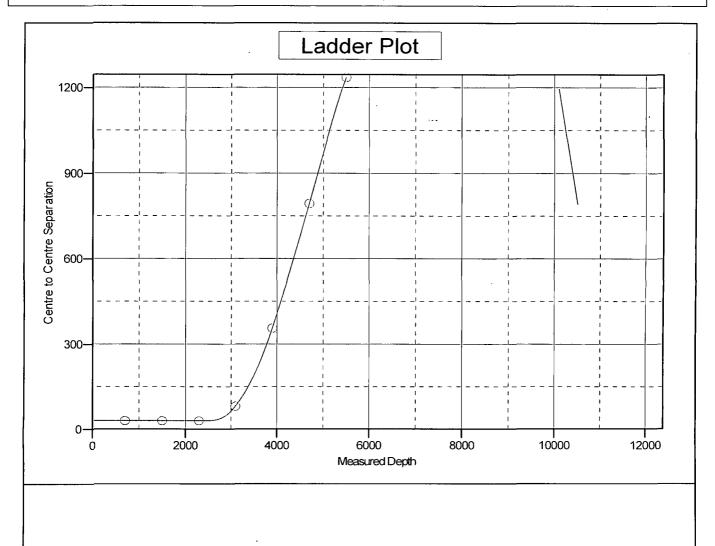
Offset Depths are relative to Offset Datum

Central Meridian is -107.833333 °

Coordinates are relative to: Good Times G24-2410 02H

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

Grid Convergence at Surface is: -0.01°



LEGEND

-See Good Times G24-2410 01H, Hz, Plan #1 V0 -See Good Times P25-2410 01H, Hz, Plan #1 V0

SHL: SWNE Section 24, T24N, R10W

2048 FNL and 1701 FEL

BHL: SWNE Section 25, T24N, R10W

2312 FNL and 1980 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

- 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 aboveground 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: SWNE Section 25, T24N, R10W

2312 FNL and 1980 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 #02H 2048' FNL & 1701' 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. 36.301147° N, LONG.107.844985° W (NAD 83).



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

