

Well Name: CARSON 32-5-9	Well Location: T32N / R5W / SEC 16 / NWNE / 32.9871264 / -107.3677452	County or Parish/State: RIO ARRIBA / NM
Well Number: 1H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM130341	Unit or CA Name:	Unit or CA Number:
US Well Number: 3003931398	Well Status: Approved Application for Permit to Drill	Operator: COLEMAN OIL & GAS INCORPORATED

Notice of Intent

Sundry ID: 2655313

Type of Submission: Notice of Intent

Date Sundry Submitted: 02/02/2022

Date proposed operation will begin: 05/01/2022

Type of Action: APD Change

Time Sundry Submitted: 01:42

Procedure Description: Coleman Oil & Gas, Inc. Request approval to change drilling operation plan on the Approved APD for the Carson 32-5-9 1H Brian Wood, with Permits West, submitted NSL request to NMOCD engineer Mr. Leonard Lowe. Mr. Lowe indicated no need for NSL, due to proposed plan was a standard horizontal spacing unit. Coleman Oil and Gas, Inc. submitted CA to Ms. Elizabeth Rivera with BLM Santa Fe NM to commute the entire section 9. Therefore, Coleman proposes to drill a third lateral from the approved APD for Carson 32-5-9 1H. (See the attached directional plans and amended NMOCD C-102). The Section 9 is a short section with W/2W/2 under a CRA. Approved CRA does not allow Coleman to penetrate the W/2 W/2 of Section 9. Therefore, Coleman proposes to drill a third lateral from the approved APD for Carson 32-5-9 1H wellbore. Packet includes 1. Amended NMOCD C-102 2. Revised Horizontal Drilling Plans. 3. Revised Horizontal Schematic. 4. Revised Horizontal Plan to complete all three laterals.

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Section 1 - General

APD ID: 10400060856	Tie to previous NOS? N	Submission Date: 08/27/2020
BLM Office: Farmington	User: BRIAN WOOD	Title: President
Federal/Indian APD: FED	Is the first lease penetrated for production Federal or Indian? FED	
Lease number: NMNM130341	Lease Acres:	
Surface access agreement in place?	Allotted?	Reservation:
Agreement in place? N	Federal or Indian agreement:	
Agreement number:		
Agreement name:		
Keep application confidential? N		
Permitting Agent? YES	APD Operator: COLEMAN OIL & GAS INCORPORATED	
Operator letter of designation:		

Operator Info

Operator Organization Name: COLEMAN OIL & GAS INCORPORATED		
Operator Address: PO BOX 3337	Zip: 87499	
Operator PO Box:		
Operator City: FARMINGTON	State: NM	
Operator Phone: (505)330-2903		
Operator Internet Address: mhanson@cog-gmn.com		

Section 2 - Well Information

Well in Master Development Plan? NO	Master Development Plan name:	
Well in Master SUPO? NO	Master SUPO name:	
Well in Master Drilling Plan? NO	Master Drilling Plan name:	
Well Name: CARSON 32-5-9	Well Number: 1H	Well API Number: 3003931398
Field/Pool or Exploratory? Field and Pool	Field Name: BASIN FRUITLAND Pool Name: COAL	
Is the proposed well in an area containing other mineral resources? USEABLE WATER,NATURAL GAS,OIL		
Is the proposed well in a Helium production area? N	Use Existing Well Pad? N	New surface disturbance?
Type of Well Pad: SINGLE WELL	Multiple Well Pad Name:	Number:
Well Class: MULTI-LATERAL	Number of Legs: 2	
Well Work Type: Drill		
Well Type: CONVENTIONAL GAS WELL		
Describe Well Type:		
Well sub-Type: INFILL		

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Allottee or Tribe Name:

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Is the proposed well in an area containing other mineral resources? USEABLE WATER,NATURAL GAS,OIL

Describe sub-type:

Distance to town: 17 Miles

Distance to nearest well: 235 FT

Distance to lease line: 11 FT

Reservoir well spacing assigned acres Measurement: 279 Acres

Well plat: Carson9_C102_GCP_20200825085745.pdf

Well work start Date: 10/01/2020

Duration: 60 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number: 17078

Reference Datum: KELLY BUSHING

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	124	FNL	2626	FEL	32N	5W	16	Aliquot NWNE	32.9871264	-107.3677452	RIO ARRI BA	NEW MEXI CO	NEW MEXI CO	F	NMNM 90463	7230	0	0	N
KOP Leg #1	124	FNL	2626	FEL	32N	5W	16	Aliquot NWNE	36.9871264	-107.3677452	RIO ARRI BA	NEW MEXI CO	NEW MEXI CO	F	NMNM 90463	4058	3605	3172	Y
PPP Leg #1-1	1346	FSL	1440	FEL	32N	5W	9	Aliquot NWSE	37.9911589	-107.3636884	RIO ARRI BA	NEW MEXI CO	NEW MEXI CO	F	NMNM 130341	3642	5456	3588	Y
EXIT Leg #1	660	FNL	1969	FEL	32N	5W	9	Aliquot SWNE	36.9983003	-107.3655005	RIO ARRI BA	NEW MEXI CO	NEW MEXI CO	F	NMNM 130341	3582	7284	3648	Y

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Well Number: 1H

Type of Well: CONVENTIONAL GAS WELL

Allottee or Tribe Name:

Lease Number: NMNM130341

Unit or CA Name:

Unit or CA Number:

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Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
BHL Leg #1	660	FNL	1969	FEL	32N	5W	9	Aliquot SWNE	36.9983003	- 107.3655005	RIO ARRI BA	NEW MEXI CO	NEW MEXI CO	F	NMNM 130341	3582	7284	3648	Y
KOP Leg #2	124	FNL	2626	FEL	32N	5W	16	Aliquot NWNE	36.9871264	- 107.3677452	RIO ARRI BA	NEW MEXI CO	NEW MEXI CO	F	NMNM 90463	4069	3590	3161	Y
PPP Leg #2-1	1346	FSL	1440	FEL	32N	5W	9	Aliquot NWSE	36.9911589	- 107.3636884	RIO ARRI BA	NEW MEXI CO	NEW MEXI CO	F	NMNM 130341	3642	4798	3588	Y
EXIT Leg #2	660	FNL	660	FEL	32N	5W	9	Aliquot SENE	36.9982852	- 107.3610173	RIO ARRI BA	NEW MEXI CO	NEW MEXI CO	F	NMNM 130341	3557	7041	3673	Y
BHL Leg #2	660	FNL	660	FEL	32N	5W	9	Aliquot SENE	36.9982852	- 107.3610173	RIO ARRI BA	NEW MEXI CO	NEW MEXI CO	F	NMNM 130341	3557	7041	3673	Y

Drilling Plan

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
8101145	SAN JOSE	7230	0	0	OTHER : Unconsolidated gravels	USEABLE WATER	N
8101146	NACIMIENTO	5352	1878	2006	SANDSTONE, SHALE, SILTSTONE	USEABLE WATER	N
8101147	OJO ALAMO	4152	3078	3482	SANDSTONE, SHALE, SILTSTONE	USEABLE WATER	N
8101148	KIRTLAND	4005	3225	3674	OTHER, SANDSTONE : Claystone	USEABLE WATER	N
8101149	FRUITLAND	3642	3588	4148	COAL, MUDSTONE, SANDSTONE, SHALE, SILTSTONE	NATURAL GAS, USEABLE WATER	N
8101150	FRUITLAND COAL	3507	3723	4324	COAL	NATURAL GAS, USEABLE WATER	Y
8101151	UNKNOWN	3442	3788	4409	OTHER : Bottom Coal	NATURAL GAS, USEABLE WATER	N
8101152	PICTURED CLIFFS	3434	3796	4419	SANDSTONE	NATURAL GAS, USEABLE WATER	N

Section 2 - Blowout Prevention

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Type of Well: CONVENTIONAL GAS WELL

Allottee or Tribe Name:

Lease Number: NMNM130341

Unit or CA Name:

Unit or CA Number:

US Well Number: 3003931398

Well Status: Approved Application for Permit to Drill

Operator: COLEMAN OIL & GAS INCORPORATED

Pressure Rating (PSI): 2M Rating Depth: 10000

Equipment: BOP equipment and accessories will meet or exceed BLM requirements outlined in 43 CFR Part 3160. The working pressure of all BOPE shall exceed the anticipated surface pressure to which it may be subjected, assuming a partially evacuated hole with a pressure gradient of 0.22 psi/ft. Expected Maximum Bottom Hole pressure = 0.433 psi/ft. x 4000 = 1732 psi, which is less than 2,000 psi working pressure. Maximum anticipated surface pressure will be 1732 psi (4000 x .22 psi/ft) = 852 psi. Therefore, a 2000 psi Class 2 BOPE system is required that consists of the following: 2 preventers with either double ram (blind and pipe) or annular preventer and blind rams. Kill line (2 minimum) 1 Kill line valve (2 minimum) 1 choke line valve 2 chokes (refer to diagram in Attachment 1) Upper Kelly cock valve with handle available Safety valve and subs to fit all drill strings in use Pressure gauge on choke manifold 2 minimum choke manifold Fill-up line above the uppermost preventer See attached diagram for the proposed BOP systems. Stack #1 will be nipped-up on the 113,000 psi top flange of the wellhead A section for the pilot hole and the dual lateral re entry. The BOP will be hydraulically operated.

Requesting Variance? NO

Variance request:

Testing Procedure: All ram preventers and related equipment will be tested to 2,000 psi for 10 minutes. Annular preventers will be tested to 70% of rated working pressure for 10 minutes. Surface casing will be tested to 1500 psi. All preventers and surface casing will be tested before drilling out of surface casing. BOP equipment will be tested when initially installed, whenever any seal subject to test pressure is broken, following related repairs and at least once every 30 days. Annular preventers will be functionally operated at least once per week. Rams preventers will be activated each trip, not to exceed once per day.

Choke Diagram Attachment:
Carson9_Choke_manifold_diagram_20200825102758.pdf

BOP Diagram Attachment:
Carson9_BOP_stack_20200825102804.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type
1	SURFACE	12.25	9.625	NEW	API	N	0	300	0	300	7230	6930	300	J-55	36	LT&C	1	1.1	DRY	1.4	DRY
2	PRODUCTION	8.75	7.0	NEW	API	N	0	4686	0	3572	7230	3658	4686	J-55	26	LT&C	1	1.1	DRY	1.4	DRY
3	LINER	6.125	4.5	NEW	API	N	3590	7041	3161	3673	4069	3557	3451	J-55	11.6	LT&C	1	1.1	DRY	1.4	DRY
4	LINER	6.125	4.5	NEW	API	N	3605	7279	3172	3648	4058	3582	3674	J-55	11.6	LT&C	1	1.1	DRY	1.4	DRY

Casing Attachments

Well Name: CARSON 32-5-9	Well Location: T32N / R5W / SEC 16 / NWNE / 32.9871264 / -107.3677452	County or Parish/State: RIO ARRIBA / NM
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Casing Attachments

Casing ID: 1	String Type: SURFACE
Inspection Document:	
Spec Document:	
Tapered String Spec:	
Casing Design Assumptions and Worksheet(s):	
Carson9_Casing_Design_Assumptions_20200825102926.docx	

Casing ID: 2	String Type: PRODUCTION
Inspection Document:	
Spec Document:	
Tapered String Spec:	
Casing Design Assumptions and Worksheet(s):	
Carson9_Casing_Design_Assumptions_20200825103045.docx	

Casing ID: 3	String Type: LINER
Inspection Document:	
Spec Document:	
Tapered String Spec:	
Casing Design Assumptions and Worksheet(s):	
Carson9_Casing_Design_Assumptions_20200825103215.docx	

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Type of Well: CONVENTIONAL GAS WELL

Allottee or Tribe Name:

Lease Number: NMNM130341

Unit or CA Name:

Unit or CA Number:

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Operator: COLEMAN OIL & GAS INCORPORATED

Casing Attachments

Casing ID: 4String Type:LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Carson9_Casing_Design_Assumptions_20200825103321.docx

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	0	0	0	0	0	0	None	None
SURFACE	Tail		0	300	177	1.17	15.8	208	100	Premium	Calcium Chloride - 2% Poly-E-Flake – Lost Circulation Control Agent – 0.125 lbs/sx
PRODUCTION	Lead		0	3300	268	2.4	12.3	642	39	VARICEM™ CEMENT – Cement – 94.02 lbs/sx	FE-2 – Controls Gel Thickening – 0.30% Kol-Seal – Lost Circulation Control Agent – 5 lbs/sx Poly-E-Flake – Lost Circulation Control Agent – 0.125 lbs/sx
PRODUCTION	Tail		3300	4686	150	1.84	13.5	276	30	VARICEM™ CEMENT – Cement – 94.02 lbs/sx	Super CBL - Gas Block Additive - 0.30% FE-2 – Controls Gel Thickening – 0.30% Kol-Seal – Lost Circulation Control Agent – 5 lbs/sx Poly-E-Flake – Lost Circulation Control Agent – 0.125 lbs/sx

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Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: A trip tank equipped with a PVT sensor will be used to monitor trip volumes. Possible lost circulation in the Fruitland Coal and Pictured Cliffs Sand. Lost circulation has been successfully mitigated with lost circulation materials. There will not be a reserve pit for this well. A closed-loop system will be used to recover drilling fluid and dry cuttings during both the pilot hole and laterals hole sections of the well. Above-ground tanks will be utilized to hold cuttings and fluids for rig operations. Frac tanks will be on location to store fresh water, produced water, drilling mud and brine.

Describe the mud monitoring system utilized: Pit Volume Totalizer (PVT) equipment (or equivalent) will be on each pit to monitor pit levels.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	300	OTHER : Fresh water gel	8.4	9							
300	4424	OTHER : LSND	8.4	9							
3590	7041	OTHER : Brine	8.6	9.8							
3605	7284	OTHER : Brine	8.6	9.8							

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

Open Hole Logging: LWD gamma ray for all lateral hole sections (from casing exit to TD).

Mud Logging: All lateral hole sections. Samples taken every 90.

Cased Hole Logging: If cement is not brought to surface on the surface casing string, then a cement bond log (CBL) will be run to determine the quality of the job prior to drilling ahead. A Cement Bond Log (CBL) will be run after the drilling of the well has been completed and as the start of the completion process. The CBL will confirm the quality of the cement bond and the actual TOC. Gamma ray and density logs may be obtained with the CBL to describe the stratigraphy of the wellbore.

List of open and cased hole logs run in the well:

CEMENT BOND LOG,GAMMA RAY LOG,

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Coring operation description for the well:
None planned.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 1732 Anticipated Surface Pressure: 923

Anticipated Bottom Hole Temperature(F): 140

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? NO

Hydrogen sulfide drilling operations plan:

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Carson9_Lateral1_Horizontal_Plan_20200825113740.pdf
Carson9_Lateral2_Horizontal_Plan_20200825113747.pdf

Other proposed operations facets description:

The proposed 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. All indications of useable water shall be reported.

The 9-5/8" surface casing shall be cemented back to surface. In the event cement does not circulate to surface, remedial cementing shall be done to cement the casing back to surface. If returns are lost and/or cement is not brought to surface, a cement bond log (CBL) will be required to determine the quality of the job prior to drilling ahead (see OO2).

Top plugs shall be used to reduce contamination of cement by displacement fluid. A fluid spacer will be pumped to help isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry. The 7" production casing will be cemented to surface. Tail cement for the 7 production casing cement job is designed to cover 500' above the Fruitland formation top, lead cement is designed to be circulate to surface. Planned excess is 30% in the open hole, excess volume approximately 33 bbls. The 4-1/2" production liners will be uncemented.

Possible lost circulation in the Fruitland Coal at 4324' MD and Pictured Cliffs Sand at 4419' MD during the pilot hole drilling. Lost circulation has been successfully mitigated with lost circulation materials. 120sx of LCM materials will be located onsite to manage lost circulation as needed. Possible lost circulation during the lateral re-entry hole sections. Drilling with losses will be mitigated with additional storage tanks for produced water and brine storage. No hydrogen sulfide gas is anticipated, however, if H2S is encountered, the guidelines in Onshore Order No. 6 will be followed.

Timing: The operation is expected to start October 2020. The pilot hole drilling operations will last approximately 7 days. After the pilot hole has been perforated and acid stimulated the drilling rig will re-enter the "7 production casing, set whipstock(s), sidetrack and drill the 6-1/8" lateral hole sections. The pilot hole and laterals may be drilled in one drilling rig event. Upon completion of the drilling and completion events, the completion rig will be on location approximately two to three weeks to run tubing and set artificial lift.

Directional Plans: Pilot hole, Lateral #1, Lateral #2 directional plans and proposed wellbore schematic attached.

Completion: The vertical pilot hole well will be perforated, and acid stimulated to the economic coal seams,

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identified by cased hole logs, within the Fruitland coal interval estimated from 4224-4283' MD. It will be cased and cementing with 7" production casing and stimulated with a small volume of acid to ensure perforations are open. The laterals will be cased with 4-1/2" pre-perforated uncemented tubing to maintain hole stability for natural open hole completion.

Horizontal Re-entry Procedure:
Drill vertical pilot hole.
Completed with 7" production casing and cement to surface.
Pilot hole will be perforated and may be stimulated with a light acid treatment in the Fruitland Coal.
Run gyro survey, orient and set whipstock for casing exit #1 @ +/-3967' MD
Mill window and TOO H for curve BHA.
Planned KOP #1 @ 3605' MD / 3173' TVD.
Drill 6-1/8" curve from 3605 'MD / 3173' TVD to landing point @ 5800' MD / 3605' TVD at 88.35o.
TOOH and PU lateral BHA.
Drill from 5800' MD / 3605' TVD to 7284' MD / 3648' TVD.
TOOH and run 4-1/2" pre-perforated liner from 3610' MD to TD @ 7279' MD.
Run gyro survey, orient and set whipstock for casing exit #2 @ +/-3590' MD
Mill window and TOO H for curve BHA.
Planned KOP #2 @ 3590' MD / 3161' TVD.
Drill 6-1/8 curve from 3590' MD / 3161' TVD to landing point @ 5107' MD / 3612' TVD at 88.20o.
TOOH and PU lateral BHA.
Drill from 5107' MD / 3612' TVD to 7041' MD / 3673' TVD.
TOOH and run 4-1/2" pre-perforated liner from 3595' MD to TD @ 7036' MD (See Drill Plan)

Other proposed operations facets attachment:

- Carson9_Drill_Plan_20200825113803.pdf
- Carson9_Additional_Attachment_20200825113810.pdf
- Carson9_Wellhead_Diagram_20200825113817.pdf
- Carson9_Lateral1_Anticollision_Report_20200825113824.pdf
- Carson9_Lateral2_Anticollision_Report_20200825113832.pdf

Other Variance attachment:

SUPO

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

COG_CNF_21_SUPO_Road_Access_Plat_082720_20200827144825.pdf

Existing Road Purpose: ACCESS

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

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Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Coleman_CNF_Sec9_1_POD_Lease_Map_v1_082720_20200915120414.pdf

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: All production facilities will be located on the well pad and separate tank batteries will NOT be used. Design and layout of facilities will be deferred until an onsite with the Authorized Officer is conducted to determine the best location, as per Carson National Forest regulations. The holder or their representative will contact the Authorized Officer to schedule a facility layout onsite. No facilities will be designed or installed without prior approval by the Authorized Officer. Once a design and layout plan is approved by the Authorized Officer any modifications must be approved in advance by the Authorized Officer.

Production Facilities map:

COG_CNF_7_9_21_SUPO_Rig_Diagram_082720_20200827145208.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: GW WELL

Water source use type:	SURFACE CASING
	STIMULATION
	DUST CONTROL
	INTERMEDIATE/PRODUCTION CASING

Source latitude:	Source longitude:
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Source datum:

Water source permit type:	WATER WELL
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Water source transport method: TRUCKING

Source land ownership: PRIVATE

Source transportation land ownership: PRIVATE

Water source volume (barrels): 10000 Source volume (acre-feet): 1.28893096

Source volume (gal): 420000

Water source and transportation map:

Coleman_CNF_H2O_source_map_v1_082720_20200827154547.pdf

Water source comments: Water will be trucked from the existing 29-6 (SJ 02090) fresh water well operated by Hillcorp along US Hwy 64 in the NWSW 28-29n-6w, Rio Arriba County, New Mexico.

New water well? N

New Water Well Info

Well latitude:	Well Longitude:	Well datum:
Well target aquifer:		
Est. depth to top of aquifer(ft):	Est thickness of aquifer:	
Aquifer comments:		
Aquifer documentation:		
Well depth (ft):	Well casing type:	
Well casing outside diameter (in.):	Well casing inside diameter (in.):	
New water well casing?	Used casing source:	
Drilling method:	Drill material:	
Grout material:	Grout depth:	
Casing length (ft.):	Casing top depth (ft.):	
Well Production type:	Completion Method:	
Water well additional information:		
State appropriation permit:		
Additional information attachment:		

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: NM One Call (811) will be notified before construction starts. Top 6" of soil and brush will be stockpiled west of the well pad. A closed loop mud system will be used. Caliche will be hauled from existing caliche pits on private land.

Construction Materials source location attachment:

Well Name: CARSON 32-5-9	Well Location: T32N / R5W / SEC 16 / NWNE / 32.9871264 / -107.3677452	County or Parish/State: RIO ARRIBA / NM
Well Number: 1H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM130341	Unit or CA Name:	Unit or CA Number:
US Well Number: 3003931398	Well Status: Approved Application for Permit to Drill	Operator: COLEMAN OIL & GAS INCORPORATED

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Drill cuttings, mud, salts, and other chemicals

Amount of waste: 550 barrels

Waste disposal frequency : Daily

Safe containment description: Steel mud tanks

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY Disposal location ownership: PRIVATE

Disposal type description:

Disposal location description: Mud tanks will be hauled to Envirotech's land farm near Bloomfield, NM.

Waste type: SEWAGE

Waste content description: Black and grey water

Amount of waste: 5 barrels

Waste disposal frequency : Daily

Safe containment description: Plastic holding tank and chemical toilets

Safe containmant attachment:

Waste disposal type: OTHER Disposal location ownership: OTHER

Disposal type description: Public

Disposal location description: Farmington wastewater treatment plant

Waste type: GARBAGE

Waste content description: Trash

Amount of waste: 10 barrels

Waste disposal frequency : Daily

Safe containment description: Portable trash cage

Safe containmant attachment:

Waste disposal type: OTHER Disposal location ownership: OTHER

Disposal type description: Public

Disposal location description: San Juan County landfill

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit? NO

Reserve pit length (ft.) Reserve pit width (ft.)

Reserve pit depth (ft.) Reserve pit volume (cu. yd.)

Well Name: CARSON 32-5-9	Well Location: T32N / R5W / SEC 16 / NWNE / 32.9871264 / -107.3677452	County or Parish/State: RIO ARRIBA / NM
Well Number: 1H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM130341	Unit or CA Name:	Unit or CA Number:
US Well Number: 3003931398	Well Status: Approved Application for Permit to Drill	Operator: COLEMAN OIL & GAS INCORPORATED

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? Y

Description of cuttings location Steel tanks on pad

Cuttings area length (ft.)	Cuttings area width (ft.)
Cuttings area depth (ft.)	Cuttings area volume (cu. yd.)

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

COG_CNF_7_9_21_SUPO_Well_Site_Layout_082720_20200915120515.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance	Multiple Well Pad Name:
	Multiple Well Pad Number:

Recontouring attachment:

Drainage/Erosion control construction: Crowned and ditched

Drainage/Erosion control reclamation: Harrowed on the contour

Well Name: CARSON 32-5-9	Well Location: T32N / R5W / SEC 16 / NWNE / 32.9871264 / -107.3677452	County or Parish/State: RIO ARRIBA / NM
Well Number: 1H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM130341	Unit or CA Name:	Unit or CA Number:
US Well Number: 3003931398	Well Status: Approved Application for Permit to Drill	Operator: COLEMAN OIL & GAS INCORPORATED

Well pad proposed disturbance (acres): 3.599	Well pad interim reclamation (acres): 1.5	Well pad long term disturbance (acres): 2.33
Road proposed disturbance (acres):	Road interim reclamation (acres): 0	Road long term disturbance (acres): 0
Powerline proposed disturbance (acres): 0	Powerline interim reclamation (acres): 0	Powerline long term disturbance (acres): 0
Pipeline proposed disturbance (acres): 0	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance (acres): 0
Other proposed disturbance (acres): 0	Other interim reclamation (acres): 0	Other long term disturbance (acres): 0
Total proposed disturbance: 3.599	Total interim reclamation: 1.5	Total long term disturbance: 2.33

Disturbance Comments:

Reconstruction method: Interim reclamation will be completed within 6 months of completing the last well on the pad. Interim reclamation will consist of shrinking the well pad by removing caliche and reclaiming portions of the pad. Disturbed areas will be contoured to match pre-construction grades.

Topsoil redistribution: Soil and brush will be evenly spread over disturbed areas and harrowed on the contour. Disturbed areas will be seeded in accordance with U.S. Forest Service requirements. Stockpiled topsoil will be retained on one edge of each well pad. This soil will be used to cover the remainder of the pads when the wells are plugged, and the pads reclaimed. Once the last well is plugged, the rest of the pad and associated roads will be similarly reclaimed within 6 months of plugging. Noxious weeds will be controlled.

Soil treatment: None

Existing Vegetation at the well pad: Pinon Juniper Woodland

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Pinon Juniper Woodland

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: Pinon Juniper Woodland

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: Pinon Juniper Woodland

Existing Vegetation Community at other disturbances attachment:

Non native seed used? N

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? N

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? N

Seed harvest description:

Seed harvest description attachment:

Well Name: CARSON 32-5-9	Well Location: T32N / R5W / SEC 16 / NWNE / 32.9871264 / -107.3677452	County or Parish/State: RIO ARRIBA / NM
Well Number: 1H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM130341	Unit or CA Name:	Unit or CA Number:
US Well Number: 3003931398	Well Status: Approved Application for Permit to Drill	Operator: COLEMAN OIL & GAS INCORPORATED

Seed Management

Seed Table

Seed Summary		Total pounds/Acre:
Seed Type	Pounds/Acre	

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name:

Last Name:

Phone:

Email:

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? N

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: To USFS standards

Weed treatment plan attachment:

Monitoring plan description: To USFS standards

Monitoring plan attachment:

Success standards: To USFS satisfaction

Pit closure description: No pit

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: U.S. FOREST SERVICE

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Well Name: CARSON 32-5-9	Well Location: T32N / R5W / SEC 16 / NWNE / 32.9871264 / -107.3677452	County or Parish/State: RIO ARRIBA / NM
Well Number: 1H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM130341	Unit or CA Name:	Unit or CA Number:
US Well Number: 3003931398	Well Status: Approved Application for Permit to Drill	Operator: COLEMAN OIL & GAS INCORPORATED

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region: REGION 3

USFS Forest/Grassland: USFS Ranger District: JICARILLA

Disturbance type: EXISTING ACCESS ROAD

Describe:

Surface Owner: U.S. FOREST SERVICE

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region: REGION 3

USFS Forest/Grassland: USFS Ranger District: JICARILLA

Section 12 - Other Information

Right of Way needed? N

Use APD as ROW?

ROW Type(s):

ROW Applications

SUPO Additional Information:

Well Name: CARSON 32-5-9	Well Location: T32N / R5W / SEC 16 / NWNE / 32.9871264 / -107.3677452	County or Parish/State: RIO ARRIBA / NM
Well Number: 1H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM130341	Unit or CA Name:	Unit or CA Number:
US Well Number: 3003931398	Well Status: Approved Application for Permit to Drill	Operator: COLEMAN OIL & GAS INCORPORATED

Use a previously conducted onsite? Y

Previous Onsite information: An onsite was conducted on March 3, 2020 with JJ Miller from Carson National Forest.

Other SUPO Attachment

PWD

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Well Name: CARSON 32-5-9	Well Location: T32N / R5W / SEC 16 / NWNE / 32.9871264 / -107.3677452	County or Parish/State: RIO ARRIBA / NM
Well Number: 1H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM130341	Unit or CA Name:	Unit or CA Number:
US Well Number: 3003931398	Well Status: Approved Application for Permit to Drill	Operator: COLEMAN OIL & GAS INCORPORATED

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres): PWD surface owner:

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Well Name: CARSON 32-5-9	Well Location: T32N / R5W / SEC 16 / NWNE / 32.9871264 / -107.3677452	County or Parish/State: RIO ARRIBA / NM
Well Number: 1H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM130341	Unit or CA Name:	Unit or CA Number:
US Well Number: 3003931398	Well Status: Approved Application for Permit to Drill	Operator: COLEMAN OIL & GAS INCORPORATED

Section 4 - Injection

Would you like to utilize Injection PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: Injection well name:

Assigned injection well API number? Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

Operator Certification

Well Name: CARSON 32-5-9	Well Location: T32N / R5W / SEC 16 / NWNE / 32.9871264 / -107.3677452	County or Parish/State: RIO ARRIBA / NM
Well Number: 1H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM130341	Unit or CA Name:	Unit or CA Number:
US Well Number: 3003931398	Well Status: Approved Application for Permit to Drill	Operator: COLEMAN OIL & GAS INCORPORATED

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: BRIAN WOOD	Signed on: 02/02/2022
Title: President	
Street Address: 37 VERANO LOOP	
City: SANTA FE	State: NM
	Zip: 87508
Phone: (505)466-8120	
Email address: AFMSS@PERMITSWEST.COM	

Field Representative

Representative Name:	
Street Address:	
City:	State:
	Zip:
Phone:	
Email address:	

NOI Attachments

Procedure Description

- Revised_COG_Carson_32_5_9_1H_9_Point_BLM_Drilling_Plan_07_16_2020_20220202090915.pdf
- Revised_Carson_32_5_9_1H_C_102_Signed__cert_1_27_22__20220202082543.pdf

Well Name: CARSON 32-5-9	Well Location: T32N / R5W / SEC 16 / NWNE / 32.9871264 / -107.3677452	County or Parish/State: RIO ARRIBA / NM
Well Number: 1H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM130341	Unit or CA Name:	Unit or CA Number:
US Well Number: 3003931398	Well Status: Approved Application for Permit to Drill	Operator: COLEMAN OIL & GAS INCORPORATED

Carson_32_5_9_1_Pad_Plan_View_20220202082012.pdf

Carson_32_5_9_1_Lateral_3_Plan_6_20220202081751.pdf

Carson_32_5_9_1_Lateral_3_Plan_6_AC_Report_20220202081734.pdf

Carson_32_5_9_1_Lateral_2_Plan_6_20220202081631.pdf

Carson_32_5_9_1_Lateral_2_Plan_6_AC_Report_20220202081548.pdf

Carson_32_5_9_1_Lateral_1_Plan_5_20220202081447.pdf

Carson_32_5_9_1_Lateral_1_Plan_5_AC_Report_20220202081431.pdf

Carson_32_5_9_1_Pilot_Plan_4_20220202081313.pdf

Carson_32_5_9_1_Pilot_Plan_4_AC_Report_20220202081249.pdf

Coleman_Carson_32_5_9_1H_Proposed_Lateral_WBD_REV_January_2022_20220202080934.pptx

Operator Certification

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a submission of Form 3160-5 or a Sundry Notice.

Operator Electronic Signature: MIKE HANSON	Signed on: FEB 02, 2022 01:40 PM
Name: COLEMAN OIL & GAS INCORPORATED	
Title: ENGINEER	
Street Address: NOT ENTERED	
City: FARMINGTON	State: NM
Phone: (505) 566-1996	
Email address: mhanson@cog-gmn.com	

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

Well Name: CARSON 32-5-9	Well Location: T32N / R5W / SEC 16 / NWNE / 32.9871264 / -107.3677452	County or Parish/State: RIO ARRIBA / NM
Well Number: 1H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM130341	Unit or CA Name:	Unit or CA Number:
US Well Number: 3003931398	Well Status: Approved Application for Permit to Drill	Operator: COLEMAN OIL & GAS INCORPORATED

BLM Point of Contact

BLM POC Name: KENNETH G RENNICK	BLM POC Title: Petroleum Engineer
BLM POC Phone: 5055647742	BLM POC Email Address: krennick@blm.gov
Disposition: Approved	Disposition Date: 02/10/2022
Signature: Kenneth Rennick	

DISTRICT I

1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II

811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III

1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, N.M. 87505
Phone: (505) 478-3460 Fax: (505) 478-3482

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, N.M. 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-31398	² Pool Code 7169	³ Pool Name BASIN FRUITLAND COAL (GAS)
⁴ Property Code 329873	⁵ Property Name CARSON 32-5-9	⁶ Well Number 1H
⁷ GRID No. 4838	⁸ Operator Name COLEMAN OIL & GAS, INC.	⁹ Elevation 7230

¹⁰ Surface Location

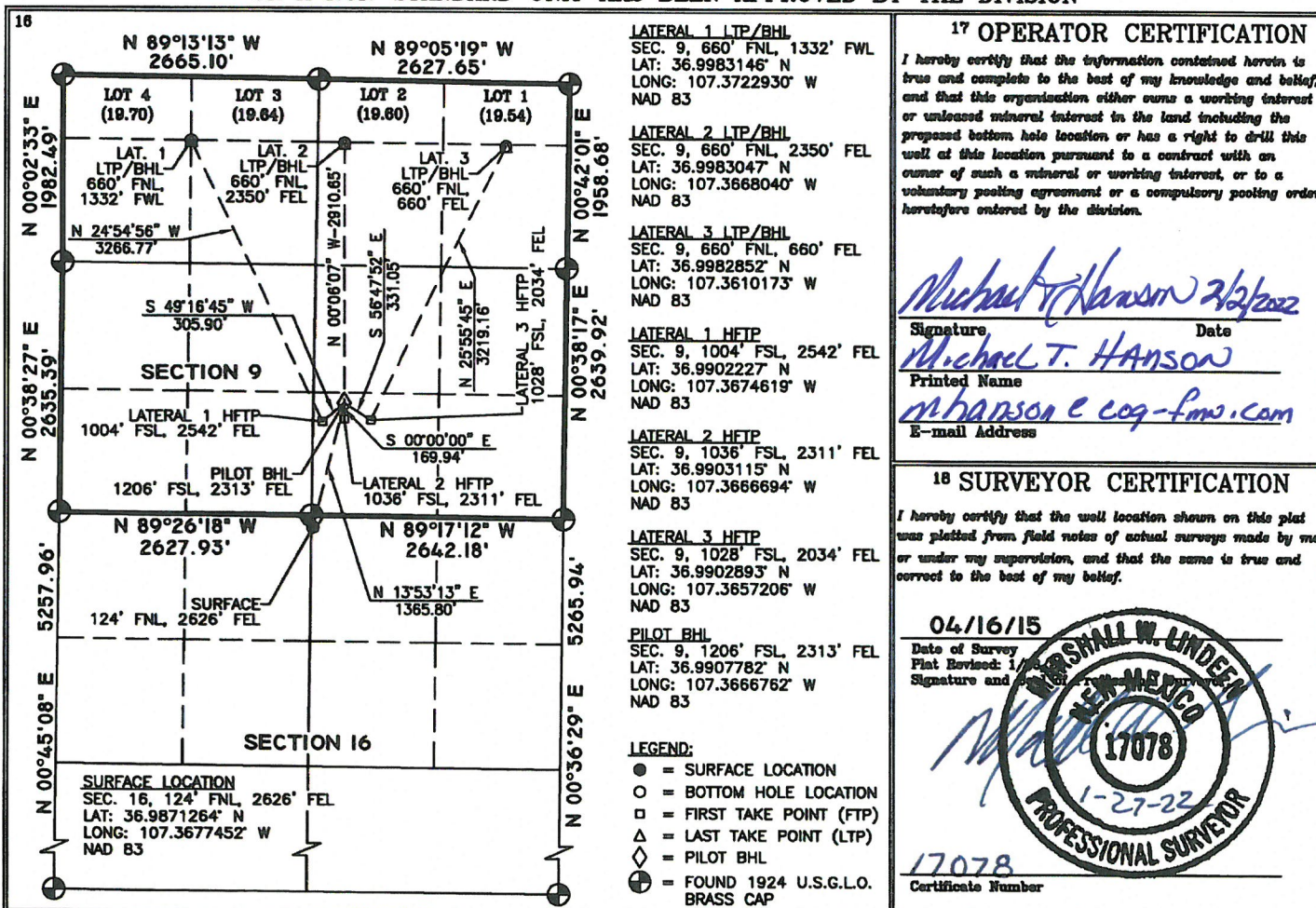
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	16	32 N	5 W		124	NORTH	2626	EAST	RIO ARRIBA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	9	32 N	5 W		1206	SOUTH	2313	EAST	RIO ARRIBA
F	9	32 N	5 W		660	NORTH	1332	WEST	RIO ARRIBA
G	9	32 N	5 W		660	NORTH	2350	EAST	RIO ARRIBA
H	9	32 N	5 W		660	NORTH	660	EAST	RIO ARRIBA

¹² Dedicated Acres**SEC 9 (558.48)**¹³ Joint or Infill¹⁴ Consolidation Code¹⁵ Order No.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION





Coleman Oil & Gas Inc.

Rio Arriba County, NM

Carson 32-5-9

Carson 32-5-9 1

Lateral 1

Plan #5

Anticollision Report

17 December, 2021





Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction
Reference Design:	Plan #5	Offset TVD Reference:	Reference Datum

Reference	Plan #5
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method	MD Interval 100.00ft
Depth Range:	Unlimited
Results Limited by:	Maximum centre distance of 10,000.00ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	Systematic Ellipse
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program		Date	12/17/2021		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	3,870.00	Plan #4 (Pilot)	MWD-SDI		
3,870.00	7,952.32	Plan #5 (Lateral 1)	MWD-SDI		

Summary							
Site Name	Reference Measure	Offset Measure	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation	Warning	
Offset Well - Wellbore - Design							
Carson 32-5-9							
Carson 32-5-9 1 - Lateral 2 - Plan #5	4,200.00	4,050.00	223.86	222.28	141.930	CC, ES	
Carson 32-5-9 1 - Lateral 2 - Plan #5	7,952.32	7,097.59	1,935.86	1,913.86	87.999	SF	
Carson 32-5-9 1 - Lateral 3 - Plan #6	4,200.00	4,025.00	244.87	242.86	122.149	CC, ES	
Carson 32-5-9 1 - Lateral 3 - Plan #6	7,952.32	7,782.37	3,242.47	3,192.65	65.079	SF	
Carson 32-5-9 1 - Pilot - Plan #4	4,200.00	4,132.36	169.28	167.48	93.755	CC, ES, SF	

Offset Design Carson 32-5-9 - Carson 32-5-9 1 - Lateral 2 - Plan #5												Offset Site Error:	0.00 ft
Survey Program:		0-MWD-SDI, 3855-MWD-SDI							Rule Assigned:			Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre			Distance		Rule Assigned:		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
3,855.00	3,487.06	3,854.97	3,487.28	0.00	0.00	106.21	895.66	327.80	1.58	1.58	0.00	N/A	
3,900.00	3,521.52	3,899.53	3,519.63	0.14	0.14	63.34	926.18	329.78	4.21	4.00	0.21	20.187	
4,000.00	3,591.03	3,982.19	3,568.56	0.45	0.39	86.39	990.99	343.80	49.56	48.97	0.59	83.741	
4,100.00	3,644.75	4,030.00	3,589.11	0.85	0.53	84.29	1,031.80	357.70	129.32	128.17	1.16	111.914	
4,200.00	3,676.28	4,050.00	3,595.86	1.17	0.60	43.35	1,049.29	364.67	223.86	222.28	1.58	141.930	CC, ES
4,300.00	3,682.94	4,050.00	3,595.86	1.47	0.60	-0.30	1,049.29	364.67	320.21	318.30	1.91	168.046	
4,400.00	3,682.71	4,040.66	3,592.85	1.76	0.57	-5.82	1,041.10	361.33	417.08	414.89	2.19	190.403	
4,500.00	3,682.48	4,035.83	3,591.19	2.05	0.55	-8.48	1,036.88	359.66	515.08	512.60	2.48	207.381	
4,600.00	3,682.25	4,031.65	3,589.71	2.35	0.54	-10.65	1,033.24	358.25	613.66	610.88	2.78	221.028	
4,700.00	3,682.03	4,025.00	3,587.25	2.65	0.52	-5.46	1,027.46	356.06	712.61	709.55	3.06	232.888	
4,800.00	3,681.79	4,025.00	3,587.25	2.94	0.52	25.90	1,027.46	356.06	811.76	808.39	3.36	241.357	
4,900.00	3,681.54	4,025.00	3,587.25	3.24	0.52	48.74	1,027.46	356.06	910.70	907.03	3.67	248.330	
5,000.00	3,681.29	4,033.18	3,590.26	3.54	0.54	63.49	1,034.57	358.76	1,008.95	1,004.95	4.00	252.452	
5,100.00	3,681.02	4,039.47	3,592.45	3.84	0.56	71.27	1,040.06	360.92	1,106.20	1,101.88	4.32	256.062	
5,200.00	3,680.75	4,050.00	3,595.86	4.14	0.60	76.31	1,049.29	364.67	1,202.11	1,197.46	4.65	258.391	
5,300.00	3,680.47	4,050.00	3,595.86	4.43	0.60	78.91	1,049.29	364.67	1,296.46	1,291.50	4.95	261.716	
5,400.00	3,680.19	4,075.00	3,602.68	4.73	0.67	81.81	1,071.32	374.29	1,388.84	1,383.51	5.33	260.558	
5,500.00	3,679.91	4,075.00	3,602.68	5.03	0.67	83.00	1,071.32	374.29	1,479.13	1,473.50	5.63	262.692	
5,600.00	3,679.63	4,100.00	3,607.67	5.32	0.75	84.45	1,093.42	384.85	1,567.05	1,561.04	6.01	260.952	
5,700.00	3,679.34	4,111.00	3,609.28	5.62	0.78	85.26	1,103.12	389.78	1,652.43	1,646.10	6.34	260.780	
5,800.00	3,679.06	4,125.00	3,610.80	5.91	0.82	85.90	1,115.42	396.28	1,735.11	1,728.43	6.68	259.921	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction
Reference Design:	Plan #5	Offset TVD Reference:	Reference Datum

Offset Design Carson 32-5-9 - Carson 32-5-9 1 - Lateral 2 - Plan #5													Offset Site Error:	0.00 ft
Survey Program: 0-MWD-SDI, 3855-MWD-SDI													Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Reference (ft)	Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
							+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
5,900.00	3,678.79	5,059.87	3,631.48	6.21	3.68	88.30	2,008.66	627.06	1,796.59	1,786.86	9.73	184.587		
6,000.00	3,678.52	5,153.51	3,633.37	6.50	3.96	88.46	2,102.28	628.36	1,831.47	1,821.16	10.31	177.619		
6,100.00	3,678.26	5,249.49	3,635.30	6.80	4.25	88.60	2,198.23	629.68	1,859.32	1,848.42	10.90	170.634		
6,200.00	3,678.00	5,347.28	3,637.27	7.09	4.54	88.72	2,295.98	631.04	1,879.97	1,868.49	11.49	163.657		
6,300.00	3,677.76	5,446.32	3,639.27	7.38	4.84	88.82	2,395.00	632.41	1,893.33	1,881.25	12.08	156.710		
6,400.00	3,677.52	5,546.09	3,641.28	7.69	5.14	88.90	2,494.74	633.79	1,899.32	1,886.64	12.68	149.798		
6,500.00	3,677.30	5,646.04	3,643.29	7.99	5.44	88.97	2,594.65	635.17	1,901.65	1,888.37	13.28	143.199		
6,600.00	3,677.07	5,745.99	3,645.30	8.29	5.74	89.04	2,694.57	636.55	1,903.99	1,890.11	13.88	137.172		
6,700.00	3,676.84	5,845.93	3,647.32	8.59	6.04	89.11	2,794.49	637.93	1,906.33	1,891.85	14.48	131.646		
6,800.00	3,676.61	5,945.88	3,649.33	8.89	6.34	89.18	2,894.40	639.32	1,908.67	1,893.59	15.08	126.560		
6,900.00	3,676.39	6,045.83	3,651.34	9.19	6.64	89.25	2,994.32	640.70	1,911.02	1,895.34	15.68	121.864		
7,000.00	3,676.16	6,145.77	3,653.36	9.50	6.94	89.31	3,094.24	642.08	1,913.37	1,897.08	16.28	117.514		
7,100.00	3,675.93	6,245.72	3,655.37	9.80	7.24	89.38	3,194.15	643.46	1,915.72	1,898.83	16.88	113.474		
7,200.00	3,675.70	6,345.67	3,657.39	10.10	7.54	89.45	3,294.07	644.84	1,918.07	1,900.59	17.48	109.712		
7,300.00	3,675.48	6,445.61	3,659.40	10.40	7.84	89.52	3,393.99	646.23	1,920.43	1,902.34	18.08	106.200		
7,400.00	3,675.25	6,545.56	3,661.41	10.70	8.14	89.58	3,493.91	647.61	1,922.79	1,904.10	18.68	102.914		
7,500.00	3,675.02	6,645.51	3,663.43	11.00	8.44	89.65	3,593.82	648.99	1,925.15	1,905.86	19.28	99.833		
7,600.00	3,674.79	6,745.45	3,665.44	11.30	8.74	89.72	3,693.74	650.37	1,927.51	1,907.63	19.88	96.938		
7,700.00	3,674.57	6,845.40	3,667.45	11.61	9.04	89.79	3,793.66	651.76	1,929.88	1,909.39	20.48	94.213		
7,800.00	3,674.34	6,945.35	3,669.47	11.91	9.34	89.85	3,893.57	653.14	1,932.25	1,911.16	21.08	91.643		
7,900.00	3,674.11	7,045.29	3,671.48	12.21	9.64	89.92	3,993.49	654.52	1,934.62	1,912.93	21.68	89.216		
7,952.32	3,673.99	7,097.59	3,672.53	12.37	9.80	89.95	4,045.77	655.24	1,935.86	1,913.86	22.00	87.999 SF		



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction
Reference Design:	Plan #5	Offset TVD Reference:	Reference Datum

Offset Design Carson 32-5-9 - Carson 32-5-9 1 - Lateral 3 - Plan #6													Offset Site Error:	0.00 ft
Survey Program: 0-MWD-SDI, 3840-MWD+HDGM													Offset Well Error:	0.00 ft
Reference	Vertical	Offset	Semi Major Axis	Reference	Offset	Highside	Offset Wellbore Centre		Distance		Minimum	Separation	Warning	
Measured Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Reference (ft)	Offset (ft)	Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Separation (ft)	Factor		
3,840.00	3,475.69	3,839.99	3,475.81	0.00	0.00	105.21	886.03	327.80	0.83	0.83	0.00	N/A		
3,900.00	3,521.52	3,899.08	3,520.16	0.18	0.71	89.89	924.64	332.85	6.72	5.96	0.77	8.761		
4,000.00	3,591.03	3,975.00	3,572.94	0.49	0.91	109.71	974.73	353.91	59.44	58.58	0.87	68.635		
4,100.00	3,644.75	4,013.97	3,597.41	0.89	0.85	110.60	999.91	370.78	146.20	144.57	1.64	89.368		
4,200.00	3,676.28	4,025.00	3,603.94	1.22	0.82	9.22	1,006.90	376.26	244.87	242.86	2.00	122.149 CC, ES		
4,300.00	3,682.94	4,009.50	3,594.71	1.51	0.86	-29.13	997.06	368.64	341.68	339.45	2.24	152.813		
4,400.00	3,682.71	4,000.00	3,588.88	1.80	0.89	-30.86	990.96	364.28	437.78	435.43	2.34	186.962		
4,500.00	3,682.48	3,987.04	3,580.72	2.10	0.90	-32.76	982.58	358.70	534.75	532.19	2.56	209.193		
4,600.00	3,682.25	3,975.00	3,572.94	2.39	0.91	-34.15	974.73	353.91	632.40	629.62	2.78	227.254		
4,700.00	3,682.03	3,975.00	3,572.94	2.69	0.91	-28.54	974.73	353.91	730.47	727.57	2.91	251.337		
4,800.00	3,681.79	3,975.00	3,572.94	2.99	0.91	-1.55	974.73	353.91	829.34	826.31	3.03	273.655		
4,900.00	3,681.54	3,975.00	3,572.94	3.28	0.91	29.06	974.73	353.91	928.47	925.00	3.46	268.141		
5,000.00	3,681.29	3,975.00	3,572.94	3.58	0.91	50.23	974.73	353.91	1,027.31	1,023.50	3.81	269.514		
5,100.00	3,681.02	3,975.00	3,572.94	3.88	0.91	62.33	974.73	353.91	1,125.48	1,121.34	4.14	271.860		
5,200.00	3,680.75	3,975.00	3,572.94	4.18	0.91	69.46	974.73	353.91	1,222.65	1,218.20	4.45	274.484		
5,300.00	3,680.47	3,975.00	3,572.94	4.48	0.91	73.99	974.73	353.91	1,318.58	1,313.82	4.76	276.740		
5,400.00	3,680.19	3,975.00	3,572.94	4.78	0.91	77.05	974.73	353.91	1,413.04	1,407.97	5.07	278.628		
5,500.00	3,679.91	3,975.00	3,572.94	5.07	0.91	79.23	974.73	353.91	1,505.84	1,500.46	5.37	280.160		
5,600.00	3,679.63	3,987.09	3,580.75	5.37	0.90	81.59	982.61	358.72	1,596.56	1,590.86	5.70	280.021		
5,700.00	3,679.34	4,000.00	3,588.88	5.66	0.89	83.36	990.96	364.28	1,685.30	1,679.28	6.02	280.037		
5,800.00	3,679.06	4,000.00	3,588.88	5.96	0.89	84.17	990.96	364.28	1,771.60	1,765.29	6.31	280.735		
5,900.00	3,678.79	4,000.00	3,588.88	6.25	0.89	84.81	990.96	364.28	1,855.57	1,848.98	6.60	281.158		
6,000.00	3,678.52	4,025.00	3,603.94	6.55	0.82	86.14	1,006.90	376.26	1,936.91	1,930.21	6.71	288.732		
6,100.00	3,678.26	4,025.00	3,603.94	6.84	0.82	86.51	1,006.90	376.26	2,015.28	2,008.31	6.97	289.019		
6,200.00	3,678.00	4,025.00	3,603.94	7.13	0.82	86.81	1,006.90	376.26	2,090.94	2,083.72	7.22	289.483		
6,300.00	3,677.76	4,050.00	3,618.06	7.43	0.67	87.62	1,022.47	389.79	2,163.51	2,155.64	7.87	274.807		
6,400.00	3,677.52	4,050.00	3,618.06	7.73	0.67	87.80	1,022.47	389.79	2,232.78	2,224.59	8.19	272.657		
6,500.00	3,677.30	4,061.01	3,623.95	8.03	0.63	88.02	1,029.19	396.22	2,301.60	2,292.95	8.65	266.097		
6,600.00	3,677.07	4,075.00	3,631.14	8.33	0.91	88.28	1,037.59	404.79	2,372.42	2,363.15	9.28	255.721		
6,700.00	3,676.84	4,075.00	3,631.14	8.64	0.91	88.28	1,037.59	404.79	2,445.04	2,435.45	9.59	255.084		
6,800.00	3,676.61	4,088.93	3,637.96	8.94	1.23	88.52	1,045.78	413.76	2,519.28	2,509.10	10.19	247.304		
6,900.00	3,676.39	4,100.00	3,643.13	9.24	1.51	88.71	1,052.16	421.18	2,595.09	2,584.35	10.75	241.482		
7,000.00	3,676.16	4,100.00	3,643.13	9.54	1.51	88.71	1,052.16	421.18	2,672.35	2,661.30	11.05	241.930		
7,100.00	3,675.93	4,125.00	3,653.94	9.84	2.00	89.09	1,066.11	438.88	2,750.95	2,739.14	11.81	232.873		
7,200.00	3,675.70	4,125.00	3,653.94	10.14	2.00	89.09	1,066.11	438.88	2,830.53	2,818.43	12.11	233.791		
7,300.00	3,675.48	4,125.00	3,653.94	10.45	2.00	89.09	1,066.11	438.88	2,911.38	2,898.98	12.40	234.791		
7,400.00	3,675.25	4,137.69	3,658.97	10.75	2.25	89.26	1,072.93	448.32	2,993.19	2,980.27	12.92	231.640		
7,500.00	3,675.02	4,150.00	3,663.53	11.05	2.48	89.42	1,079.37	457.77	3,076.01	3,062.57	13.44	228.942		
7,600.00	3,674.79	4,150.00	3,663.53	11.35	2.48	89.42	1,079.37	457.77	3,159.65	3,145.93	13.72	230.245		
7,700.00	3,674.57	7,530.45	3,653.08	11.65	47.26	89.61	3,673.60	1,947.19	3,228.51	3,182.53	45.99	70.203		
7,800.00	3,674.34	7,630.29	3,651.78	11.95	48.03	89.59	3,773.33	1,951.71	3,234.05	3,186.55	47.50	68.091		
7,900.00	3,674.11	7,730.13	3,650.48	12.25	48.82	89.57	3,873.06	1,956.24	3,239.58	3,190.56	49.02	66.086		
7,952.32	3,673.99	7,782.37	3,649.79	12.41	49.25	89.56	3,925.24	1,958.60	3,242.47	3,192.65	49.82	65.079 SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction
Reference Design:	Plan #5	Offset TVD Reference:	Reference Datum

Offset Design Carson 32-5-9 - Carson 32-5-9 1 - Pilot - Plan #4													Offset Site Error:	0.00 ft	
Survey Program:		0-MWD-SDI		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error:	0.00 ft
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside				Distance					
Depth	Depth	Depth	Depth			Toolface	+N/-S	+E/-W	Between	Between	Minimum	Separation		Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	Centres	Ellipses	Separation	Factor			
3,870.00	3,498.39	3,869.94	3,498.75	0.00	0.00	107.20	905.28	327.80	2.55	2.55	0.00	N/A			
3,900.00	3,521.52	3,899.95	3,521.74	0.09	0.09	109.13	924.57	327.80	1.56	1.38	0.18	8.726			
4,000.00	3,591.03	3,995.63	3,595.03	0.40	0.38	126.19	986.08	327.80	28.85	28.10	0.75	38.252			
4,100.00	3,644.75	4,076.31	3,656.84	0.81	0.62	135.81	1,037.94	327.80	87.07	85.75	1.33	65.562			
4,200.00	3,676.28	4,132.36	3,699.78	1.13	0.79	140.27	1,073.97	327.80	169.28	167.48	1.81	93.755	CC, ES, SF		
4,300.00	3,682.94	4,158.48	3,719.79	1.43	0.87	141.13	1,090.75	327.80	265.46	263.27	2.19	121.432			
4,400.00	3,682.71	4,176.02	3,733.22	1.72	0.92	141.13	1,102.03	327.80	363.91	361.37	2.54	143.303			
4,500.00	3,682.48	4,193.57	3,746.66	2.01	0.97	141.13	1,113.31	327.80	462.36	459.46	2.89	159.843			
4,600.00	3,682.25	4,211.11	3,760.10	2.31	1.03	141.13	1,124.59	327.80	560.81	557.56	3.25	172.789			
4,700.00	3,682.03	4,228.84	3,773.68	2.60	1.08	136.33	1,135.98	327.80	659.22	655.62	3.60	183.155			
4,800.00	3,681.79	4,249.94	3,789.84	2.90	1.14	125.29	1,149.54	327.80	756.86	752.89	3.96	190.921			
4,900.00	3,681.54	4,275.46	3,809.40	3.20	1.22	119.47	1,165.95	327.80	853.09	848.75	4.34	196.426			
5,000.00	3,681.29	4,305.27	3,832.23	3.49	1.31	116.16	1,185.11	327.80	947.55	942.81	4.73	200.129			
5,100.00	3,681.02	4,339.20	3,858.23	3.79	1.41	114.17	1,206.92	327.80	1,039.90	1,034.76	5.14	202.397			
5,200.00	3,680.75	4,377.07	3,887.23	4.09	1.53	112.95	1,231.26	327.80	1,129.86	1,124.30	5.56	203.143			
5,300.00	3,680.47	4,418.67	3,919.10	4.39	1.65	112.21	1,258.00	327.80	1,217.15	1,211.16	5.99	203.068			
5,400.00	3,680.19	4,463.76	3,953.64	4.69	1.79	111.78	1,286.99	327.80	1,301.54	1,295.11	6.44	202.254			
5,500.00	3,679.91	4,512.11	3,990.68	4.98	1.93	111.58	1,318.06	327.80	1,382.81	1,375.92	6.89	200.827			
5,600.00	3,679.63	4,524.28	4,000.00	5.28	1.97	110.13	1,325.88	327.80	1,461.27	1,454.04	7.23	202.214			
5,700.00	3,679.34	4,524.28	4,000.00	5.57	1.97	108.46	1,325.88	327.80	1,538.01	1,530.48	7.53	204.290			
5,800.00	3,679.06	4,524.28	4,000.00	5.87	1.97	107.01	1,325.88	327.80	1,612.93	1,605.10	7.83	206.027			
5,900.00	3,678.79	4,524.28	4,000.00	6.16	1.97	105.75	1,325.88	327.80	1,685.88	1,677.76	8.13	207.445			
6,000.00	3,678.52	4,524.28	4,000.00	6.46	1.97	104.65	1,325.88	327.80	1,756.74	1,748.31	8.42	208.563			
6,100.00	3,678.26	4,524.28	4,000.00	6.75	1.97	103.68	1,325.88	327.80	1,825.37	1,816.66	8.72	209.401			
6,200.00	3,678.00	4,524.28	4,000.00	7.04	1.97	102.83	1,325.88	327.80	1,891.67	1,882.66	9.01	209.991			
6,300.00	3,677.76	4,524.28	4,000.00	7.34	1.97	102.09	1,325.88	327.80	1,955.53	1,946.23	9.29	210.462			
6,400.00	3,677.52	4,524.28	4,000.00	7.64	1.97	101.43	1,325.88	327.80	2,016.83	2,007.24	9.59	210.266			
6,500.00	3,677.30	4,524.28	4,000.00	7.94	1.97	101.43	1,325.88	327.80	2,078.41	2,068.52	9.89	210.111			
6,600.00	3,677.07	4,524.28	4,000.00	8.24	1.97	101.43	1,325.88	327.80	2,142.89	2,132.69	10.19	210.247			
6,700.00	3,676.84	4,524.28	4,000.00	8.55	1.97	101.43	1,325.88	327.80	2,210.01	2,199.52	10.49	210.623			
6,800.00	3,676.61	4,524.28	4,000.00	8.85	1.97	101.43	1,325.88	327.80	2,279.54	2,268.75	10.79	211.200			
6,900.00	3,676.39	4,524.28	4,000.00	9.15	1.97	101.43	1,325.88	327.80	2,351.27	2,340.18	11.09	211.941			
7,000.00	3,676.16	4,524.28	4,000.00	9.45	1.97	101.43	1,325.88	327.80	2,425.01	2,413.61	11.39	212.817			
7,100.00	3,675.93	4,524.28	4,000.00	9.75	1.97	101.43	1,325.88	327.80	2,500.57	2,488.87	11.70	213.802			
7,200.00	3,675.70	4,524.28	4,000.00	10.05	1.97	101.43	1,325.88	327.80	2,577.79	2,565.80	12.00	214.875			
7,300.00	3,675.48	4,524.28	4,000.00	10.36	1.97	101.43	1,325.88	327.80	2,656.54	2,644.24	12.30	216.018			
7,400.00	3,675.25	4,524.28	4,000.00	10.66	1.97	101.43	1,325.88	327.80	2,736.67	2,724.07	12.60	217.215			
7,500.00	3,675.02	4,524.28	4,000.00	10.96	1.97	101.43	1,325.88	327.80	2,818.08	2,805.18	12.90	218.455			
7,600.00	3,674.79	4,524.28	4,000.00	11.26	1.97	101.43	1,325.88	327.80	2,900.64	2,887.44	13.20	219.726			
7,700.00	3,674.57	4,524.28	4,000.00	11.56	1.97	101.43	1,325.88	327.80	2,984.28	2,970.77	13.50	221.018			
7,800.00	3,674.34	4,524.28	4,000.00	11.86	1.97	101.43	1,325.88	327.80	3,068.89	3,055.09	13.80	222.325			
7,900.00	3,674.11	4,524.28	4,000.00	12.16	1.97	101.43	1,325.88	327.80	3,154.40	3,140.30	14.10	223.640			
7,952.32	3,673.99	4,524.28	4,000.00	12.32	1.97	101.43	1,325.88	327.80	3,199.48	3,185.22	14.26	224.329			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction
Reference Design:	Plan #5	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GL 7230' & RKB 15' @ 7245.00ft

Offset Depths are relative to Offset Datum

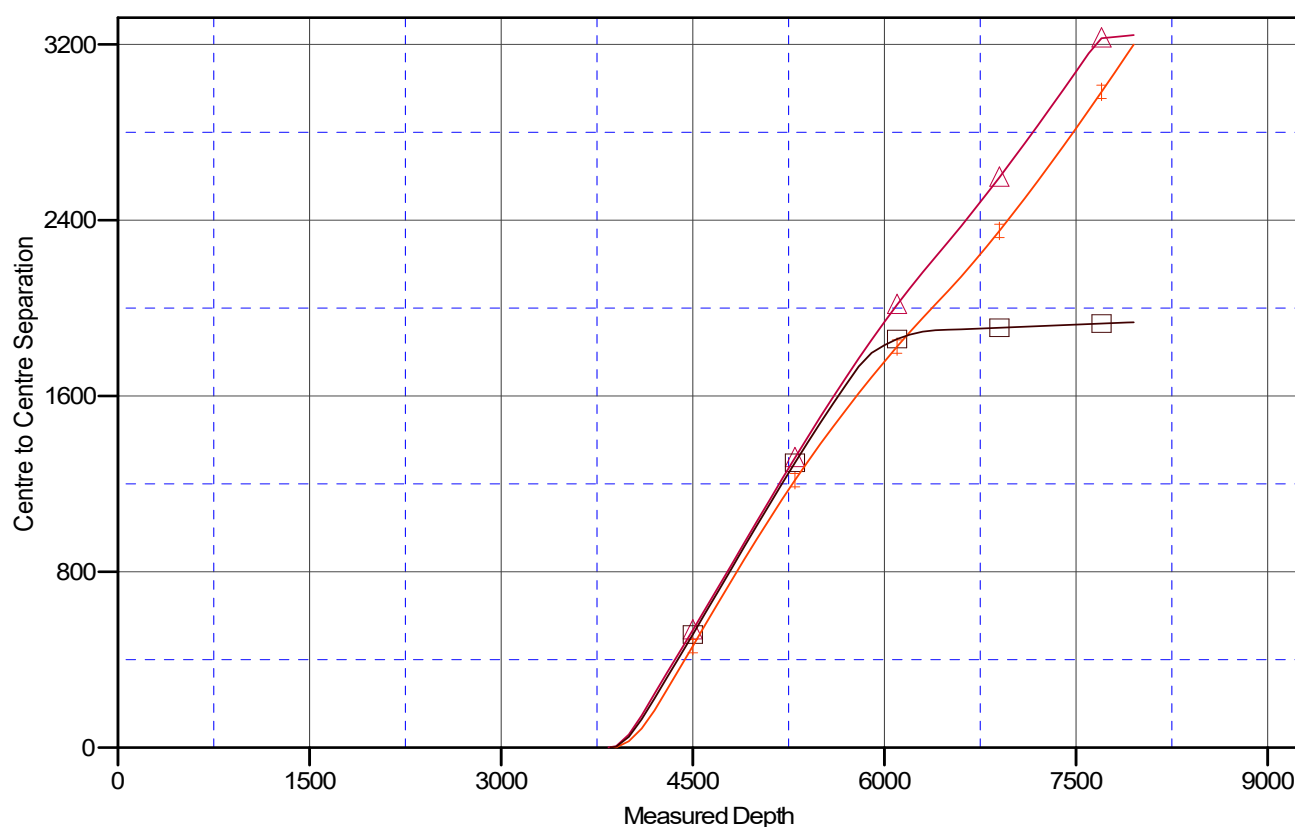
Central Meridian is -106.2500000

Coordinates are relative to: Carson 32-5-9 1

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

Grid Convergence at Surface is: -0.67°

Ladder Plot



LEGEND

Carson 32-5-9 1, Lateral 3, Plan #5 VO
 Carson 32-5-9 1, Plot, Plan #4 VO
 Carson 32-5-9 1, Lateral 2, Plan #5 VO



Lonestar Consulting, LLC

Anticollision Report

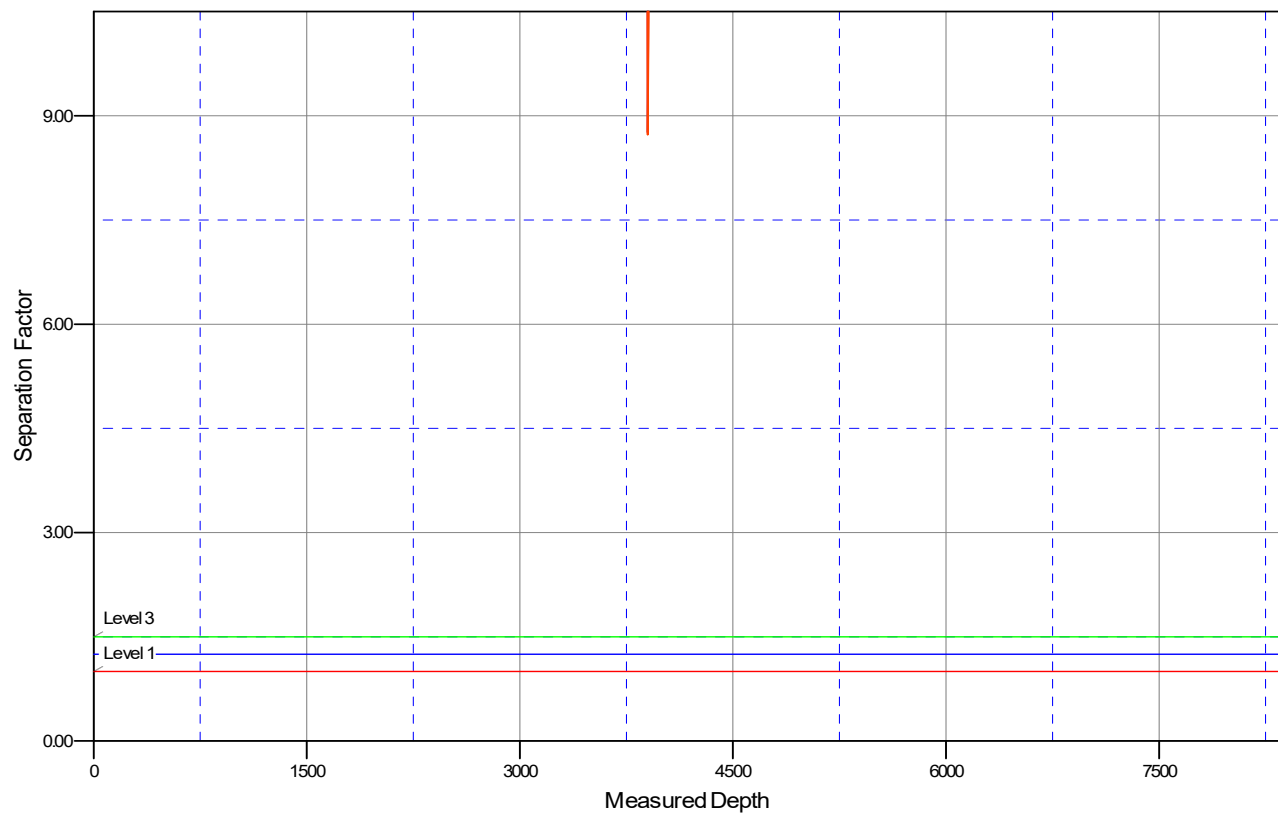


Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction
Reference Design:	Plan #5	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GL 7230' & RKB 15' @ 7245.00ft
 Offset Depths are relative to Offset Datum
 Central Meridian is -106.2500000

Coordinates are relative to: Carson 32-5-9 1
 Coordinate System is US State Plane 1983, New Mexico Central Zone
 Grid Convergence at Surface is: -0.67°

Separation Factor Plot



LEGEND

Carson 32-5-9 1, Lateral 3, Plan #6 V0
 Carson 32-5-9 1, Plot, Plan #4 V0
 Carson 32-5-9 1, Lateral 2, Plan #5 V0

Released to Imaging: 3/9/2022 1:32:08 PM



Company: Coleman Oil & Gas Inc.
Project: Rio Arriba County, NM
Site: Carson 32-5-9
Well: Carson 32-5-9 1
Wellbore: Lateral 1
Design: Plan #5

PROJECT DETAILS: Rio Arriba County, NM

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Central Zone
System Datum: Mean Sea Level
Local North: True

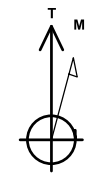


WELL DETAILS: Carson 32-5-9 1

GL 7230' & RKB 15' @ 7245.00ft
+N/-S +E/-W Northing Easting Latitude Longitude
0.00 0.00 2180525.56 1313970.64 36.9871264 -107.3677452

Plan: Plan #5 (Carson 32-5-9 1/Lateral 1)

Created By: Janie Collins Date: 16:01, December 17 2021



Azimuths to True North
Magnetic North: 8

Magnetic Field
Strength: 49728
Dip Angle: 63.6
Date: 6/2/2021
Model: HDGM2021_F1-E

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Carson 32-5-9 1 Lat 1 PBHL	3674.00	4072.52	-1280.43	36.9983112	-107.3721296

SECTION DETAILS

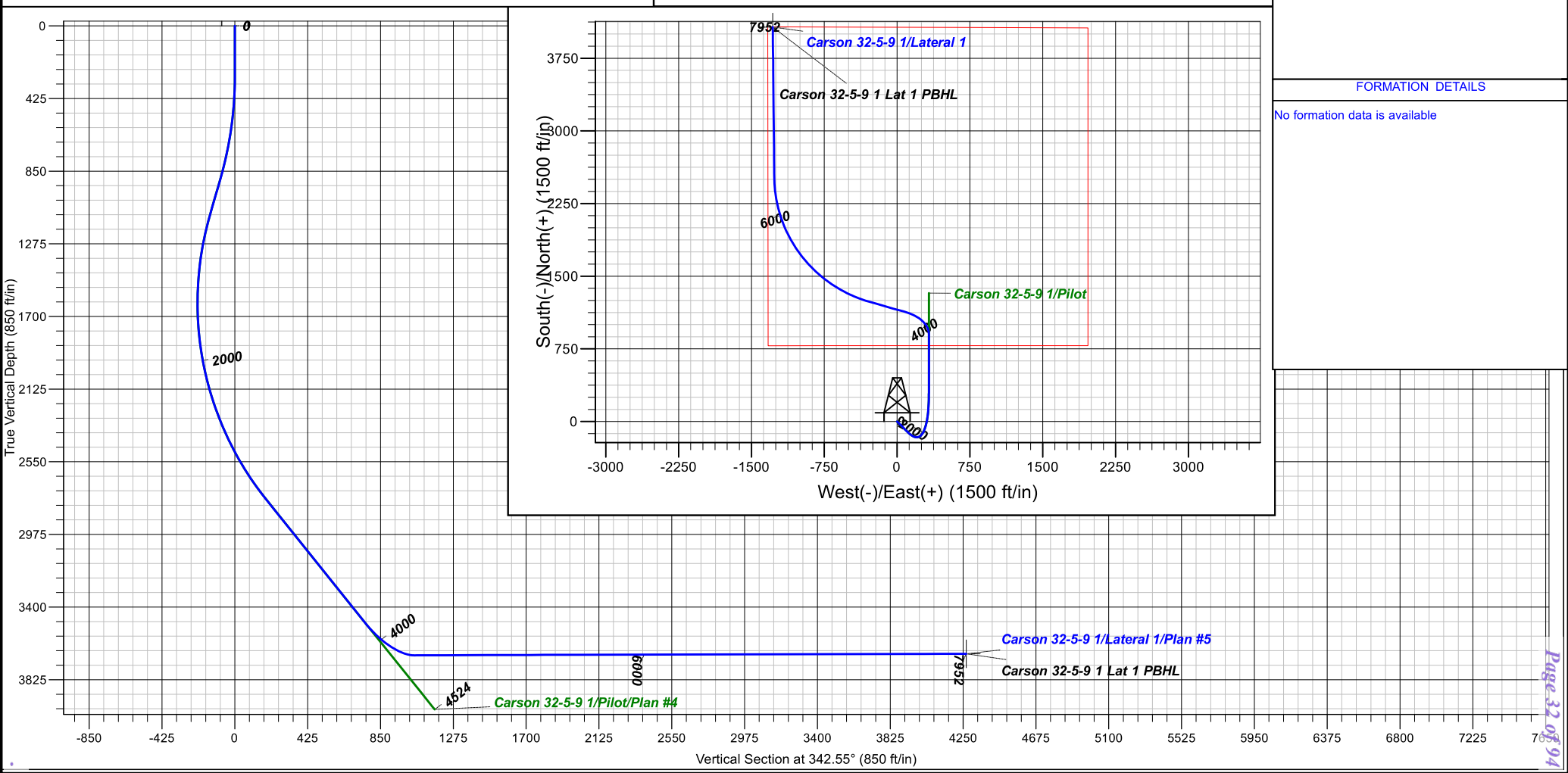
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
3870.00	40.00	0.00	3498.80	905.32	327.80	0.00	0.00	765.33
4271.53	90.13	286.00	3683.00	1126.82	95.96	19.90	-77.53	1046.16
4671.53	90.13	286.00	3682.09	1237.08	-288.54	0.00	0.00	1266.67
6399.32	90.13	359.43	3677.53	2519.59	-1265.01	4.25	89.90	2763.01
7952.32	90.13	359.43	3674.00	4072.52	-1280.43	0.00	0.00	4269.06

CASING DETAILS

No casing data is available

FORMATION DETAILS

No formation data is available



Received by OGD: 3/9/2022 1:32:08 PM



Coleman Oil & Gas Inc.

Rio Arriba County, NM

Carson 32-5-9

Carson 32-5-9 1

Lateral 1

Plan: Plan #5

Standard Planning Report

17 December, 2021





Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference	Well Carson 32-5-9 1
Company:	Coleman Oil & Gas Inc.	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Project:	Rio Arriba County, NM	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site:	Carson 32-5-9	North Reference:	True
Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #5		

Project	Rio Arriba County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	Carson 32-5-9, Site Center: Carson 32-5-9 1H		
Site Position:		Northing:	2,180,525.56 usft
From:	Lat/Long	Easting:	1,313,970.64 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	36.9871264
		Longitude:	-107.3677452
		Grid Convergence:	-0.67 °

Well	Carson 32-5-9 1, 124' FNL 2626' FEL Sec 16 T32N R5W		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	Lateral 1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM2021_FILE	6/2/2021	8.70	63.45	49,728.90000000

Design	Plan #5			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	3,870.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	342.55

Plan Survey Tool Program	Date	12/17/2021		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(ft)	(ft)			
1 3,870.00	7,952.32	Plan #5 (Lateral 1)	MWD-SDI	

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100ft)	(°/100ft)	(°/100ft)		
3,870.00	40.00	0.00	3,498.80	905.32	327.80	0.00	0.00	0.00	0.00	
4,271.53	90.13	286.00	3,683.00	1,126.82	95.96	19.90	12.48	-18.43	-77.53	
4,671.53	90.13	286.00	3,682.09	1,237.08	-288.54	0.00	0.00	0.00	0.00	
6,399.32	90.13	359.43	3,677.53	2,519.59	-1,265.01	4.25	0.00	4.25	89.90	
7,952.32	90.13	359.43	3,674.00	4,072.52	-1,280.43	0.00	0.00	0.00	0.00	Carson 32-5-9 1 Lat 1



Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference	Well Carson 32-5-9 1
Company:	Coleman Oil & Gas Inc.	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Project:	Rio Arriba County, NM	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site:	Carson 32-5-9	North Reference:	True
Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #5		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
3,870.00	40.00	0.00	3,498.80	905.32	327.80	765.33	0.00	0.00	0.00	
3,900.01	41.63	351.21	3,521.52	924.84	326.27	784.40	19.89	5.43	-29.30	
4,000.01	51.04	326.78	3,591.03	990.85	299.62	855.37	19.90	9.41	-24.42	
4,100.01	64.22	309.02	3,644.76	1,052.35	242.77	931.08	19.90	13.18	-17.76	
4,200.01	79.09	295.04	3,676.28	1,101.97	162.50	1,002.50	19.90	14.87	-13.98	
4,271.53	90.13	286.00	3,683.00	1,126.82	95.96	1,046.16	19.90	15.43	-12.64	
4,300.01	90.13	286.00	3,682.94	1,134.67	68.59	1,061.86	0.00	0.00	0.00	
4,400.01	90.13	286.00	3,682.71	1,162.24	-27.53	1,116.99	0.00	0.00	0.00	
4,500.01	90.13	286.00	3,682.48	1,189.80	-123.66	1,172.11	0.00	0.00	0.00	
4,600.01	90.13	286.00	3,682.25	1,217.36	-219.79	1,227.24	0.00	0.00	0.00	
4,671.53	90.13	286.00	3,682.09	1,237.08	-288.54	1,266.67	0.00	0.00	0.00	
4,700.01	90.13	287.21	3,682.03	1,245.22	-315.83	1,282.61	4.25	0.01	4.25	
4,800.01	90.14	291.46	3,681.79	1,278.32	-410.17	1,342.49	4.25	0.01	4.25	
4,900.01	90.14	295.71	3,681.54	1,318.32	-501.79	1,408.13	4.25	0.01	4.25	
5,000.01	90.15	299.96	3,681.29	1,365.00	-590.20	1,479.18	4.25	0.01	4.25	
5,100.01	90.15	304.21	3,681.02	1,418.11	-674.91	1,555.25	4.25	0.00	4.25	
5,200.01	90.16	308.46	3,680.75	1,477.35	-755.44	1,635.91	4.25	0.00	4.25	
5,300.01	90.16	312.71	3,680.47	1,542.39	-831.37	1,720.73	4.25	0.00	4.25	
5,400.01	90.16	316.96	3,680.19	1,612.88	-902.27	1,809.24	4.25	0.00	4.25	
5,500.01	90.16	321.21	3,679.91	1,688.43	-967.75	1,900.95	4.25	0.00	4.25	
5,600.01	90.16	325.46	3,679.63	1,768.63	-1,027.45	1,995.36	4.25	0.00	4.25	
5,700.01	90.16	329.71	3,679.35	1,853.03	-1,081.04	2,091.95	4.25	0.00	4.25	
5,800.01	90.16	333.96	3,679.07	1,941.16	-1,128.23	2,190.19	4.25	0.00	4.25	
5,900.01	90.16	338.21	3,678.79	2,032.56	-1,168.75	2,289.53	4.25	0.00	4.25	
6,000.01	90.15	342.46	3,678.52	2,126.70	-1,202.40	2,389.43	4.25	0.00	4.25	
6,100.01	90.15	346.71	3,678.26	2,223.09	-1,228.97	2,489.34	4.25	0.00	4.25	
6,200.01	90.14	350.96	3,678.00	2,321.17	-1,248.33	2,588.72	4.25	-0.01	4.25	
6,300.01	90.14	355.21	3,677.76	2,420.42	-1,260.37	2,687.01	4.25	-0.01	4.25	
6,399.32	90.13	359.43	3,677.53	2,519.59	-1,265.01	2,783.01	4.25	-0.01	4.25	
6,400.01	90.13	359.43	3,677.53	2,520.29	-1,265.01	2,783.68	0.00	0.00	0.00	
6,500.01	90.13	359.43	3,677.30	2,620.28	-1,266.01	2,879.36	0.00	0.00	0.00	
6,600.01	90.13	359.43	3,677.07	2,720.28	-1,267.00	2,975.05	0.00	0.00	0.00	
6,700.01	90.13	359.43	3,676.84	2,820.27	-1,267.99	3,070.74	0.00	0.00	0.00	
6,800.01	90.13	359.43	3,676.62	2,920.27	-1,268.99	3,166.43	0.00	0.00	0.00	
6,900.01	90.13	359.43	3,676.39	3,020.26	-1,269.98	3,262.12	0.00	0.00	0.00	
7,000.01	90.13	359.43	3,676.16	3,120.26	-1,270.97	3,357.81	0.00	0.00	0.00	
7,100.01	90.13	359.43	3,675.94	3,220.25	-1,271.97	3,453.50	0.00	0.00	0.00	
7,200.01	90.13	359.43	3,675.71	3,320.25	-1,272.96	3,549.19	0.00	0.00	0.00	
7,300.01	90.13	359.43	3,675.48	3,420.24	-1,273.95	3,644.88	0.00	0.00	0.00	
7,400.01	90.13	359.43	3,675.25	3,520.24	-1,274.95	3,740.57	0.00	0.00	0.00	
7,500.02	90.13	359.43	3,675.03	3,620.23	-1,275.94	3,836.26	0.00	0.00	0.00	
7,600.02	90.13	359.43	3,674.80	3,720.23	-1,276.93	3,931.95	0.00	0.00	0.00	
7,700.02	90.13	359.43	3,674.57	3,820.22	-1,277.93	4,027.63	0.00	0.00	0.00	
7,800.02	90.13	359.43	3,674.35	3,920.22	-1,278.92	4,123.32	0.00	0.00	0.00	
7,900.02	90.13	359.43	3,674.12	4,020.21	-1,279.91	4,219.01	0.00	0.00	0.00	
7,952.32	90.13	359.43	3,674.00	4,072.52	-1,280.43	4,269.06	0.00	0.00	0.00	



Lonestar Consulting, LLC
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference	Well Carson 32-5-9 1
Company:	Coleman Oil & Gas Inc.	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Project:	Rio Arriba County, NM	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site:	Carson 32-5-9	North Reference:	True
Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #5		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
Carson 32-5-9 1 Lat 1 Pl	0.00	0.00	3,674.00	4,072.52	-1,280.43	2,184,612.81	1,312,738.10	36.9983112	-107.3721296
- plan hits target center									
- Point									



Coleman Oil & Gas Inc.

Rio Arriba County, NM

Carson 32-5-9

Carson 32-5-9 1

Lateral 2

Plan #6

Anticollision Report

04 January, 2022





Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 2	Database:	Grand Junction
Reference Design:	Plan #6	Offset TVD Reference:	Reference Datum

Reference	Plan #6
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method	MD Interval 100.00ft
Depth Range:	Unlimited
Results Limited by:	Maximum centre distance of 10,000.00ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	Systematic Ellipse
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program		Date	1/4/2022	
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	3,855.00	Plan #4 (Pilot)	MWD-SDI	
3,855.00	7,067.78	Plan #6 (Lateral 2)	MWD-SDI	

Summary						
Site Name	Reference Measure	Offset Measure	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation	Warning
Offset Well - Wellbore - Design						
Carson 32-5-9						
Carson 32-5-9 1 - Lateral 1 - Plan #5	4,200.00	4,109.65	175.71	174.01	103.020	CC, ES
Carson 32-5-9 1 - Lateral 1 - Plan #5	7,067.78	7,934.46	1,555.21	1,533.35	71.146	SF
Carson 32-5-9 1 - Lateral 3 - Plan #6	4,200.00	4,106.69	180.35	178.54	99.426	CC, ES
Carson 32-5-9 1 - Lateral 3 - Plan #6	7,067.78	7,850.46	1,688.74	1,640.69	35.151	SF
Carson 32-5-9 1 - Pilot - Plan #4	4,200.00	4,149.10	154.96	153.04	80.918	CC, ES, SF

Offset Design		Carson 32-5-9 - Carson 32-5-9 1 - Lateral 1 - Plan #5											Offset Site Error:		0.00 ft				
Survey Program:		0-MWD-SDI, 3870-MWD-SDI							Rule Assigned:							Offset Well Error:		0.00 ft	
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance						Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor							
3,855.00	3,486.02	3,854.95	3,487.27	0.00	0.00	180.00	895.65	327.80	1.95	1.95	0.00	N/A							
3,900.00	3,519.82	3,899.83	3,521.39	0.14	0.14	-149.19	924.72	326.29	2.97	2.69	0.28	10.578							
4,000.00	3,576.15	3,991.06	3,585.34	0.44	0.42	-127.56	985.01	303.31	35.46	34.60	0.86	41.174							
4,100.00	3,606.97	4,060.54	3,625.90	0.74	0.67	-117.87	1,029.11	268.46	97.20	95.88	1.33	73.349							
4,200.00	3,612.99	4,109.65	3,648.84	1.04	0.89	-112.48	1,057.75	235.92	175.71	174.01	1.71	103.020	CC, ES						
4,300.00	3,615.09	4,150.00	3,663.60	1.35	1.02	-113.09	1,079.05	205.02	259.25	257.13	2.12	122.348							
4,400.00	3,617.18	4,181.81	3,672.41	1.65	1.12	-112.21	1,094.12	178.45	346.10	343.58	2.52	137.485							
4,500.00	3,619.27	4,207.92	3,677.69	1.95	1.20	-110.99	1,105.21	155.42	435.45	432.55	2.90	150.063							
4,600.00	3,621.36	4,225.00	3,680.18	2.25	1.25	-110.04	1,111.79	139.86	526.78	523.52	3.26	161.474							
4,700.00	3,623.46	4,250.00	3,682.42	2.55	1.33	-108.50	1,120.41	116.51	619.57	615.92	3.64	170.109							
4,800.00	3,625.55	4,260.95	3,682.87	2.85	1.36	-107.78	1,123.79	106.10	713.52	709.53	3.98	179.085							
4,900.00	3,627.64	4,275.49	3,682.99	3.15	1.40	-106.81	1,127.92	92.16	808.42	804.08	4.33	186.502							
5,000.00	3,629.73	4,304.80	3,682.92	3.46	1.49	-105.06	1,135.99	63.98	903.67	898.94	4.73	191.231							
5,100.00	3,631.83	4,334.11	3,682.86	3.76	1.57	-103.63	1,144.07	35.81	998.99	993.87	5.12	195.253							
5,200.00	3,633.92	4,363.42	3,682.79	4.06	1.66	-102.44	1,152.15	7.64	1,094.36	1,088.86	5.51	198.721							
5,300.00	3,636.01	4,392.73	3,682.73	4.36	1.74	-101.43	1,160.23	-20.54	1,189.77	1,183.88	5.90	201.743							
5,400.00	3,638.10	4,422.04	3,682.66	4.66	1.83	-100.56	1,168.31	-48.71	1,285.21	1,278.92	6.29	204.395							
5,500.00	3,640.20	4,451.35	3,682.59	4.96	1.92	-99.81	1,176.39	-76.88	1,380.67	1,374.00	6.68	206.745							
5,600.00	3,642.29	4,480.66	3,682.53	5.26	2.00	-99.16	1,184.47	-105.06	1,476.16	1,469.09	7.07	208.843							
5,700.00	3,644.38	4,509.97	3,677.15	5.56	2.09	-91.19	2,687.36	-1,266.67	1,567.02	1,553.38	13.65	114.837							
5,800.00	3,646.47	4,539.28	3,676.92	5.86	2.18	-91.10	2,787.33	-1,267.67	1,566.14	1,551.89	14.25	109.933							

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 2	Database:	Grand Junction
Reference Design:	Plan #6	Offset TVD Reference:	Reference Datum

Offset Design Carson 32-5-9 - Carson 32-5-9 1 - Lateral 1 - Plan #5												Offset Site Error:	0.00 ft
Survey Program: 0-MWD-SDI, 3870-MWD-SDI												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Rule Assigned:		Distance		Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,900.00	3,648.57	6,767.03	3,676.69	6.17	8.79	-91.02	2,887.29	-1,268.66	1,565.26	1,550.41	14.85	105.426	
6,000.00	3,650.66	6,867.00	3,676.47	6.47	9.09	-90.93	2,987.25	-1,269.65	1,564.38	1,548.93	15.45	101.270	
6,100.00	3,652.75	6,966.97	3,676.24	6.77	9.40	-90.85	3,087.22	-1,270.65	1,563.50	1,547.45	16.05	97.425	
6,200.00	3,654.84	7,066.94	3,676.01	7.07	9.70	-90.77	3,187.18	-1,271.64	1,562.63	1,545.98	16.65	93.858	
6,300.00	3,656.93	7,166.91	3,675.78	7.37	10.00	-90.68	3,287.15	-1,272.63	1,561.76	1,544.51	17.25	90.540	
6,400.00	3,659.03	7,266.88	3,675.56	7.67	10.30	-90.60	3,387.11	-1,273.62	1,560.90	1,543.05	17.85	87.446	
6,500.00	3,661.12	7,366.85	3,675.33	7.97	10.60	-90.51	3,487.08	-1,274.62	1,560.04	1,541.58	18.45	84.553	
6,600.00	3,663.21	7,466.82	3,675.10	8.27	10.90	-90.43	3,587.04	-1,275.61	1,559.18	1,540.13	19.05	81.843	
6,700.00	3,665.30	7,566.79	3,674.88	8.57	11.20	-90.34	3,687.00	-1,276.60	1,558.32	1,538.67	19.65	79.299	
6,800.00	3,667.40	7,666.76	3,674.65	8.87	11.51	-90.26	3,786.97	-1,277.60	1,557.47	1,537.22	20.25	76.906	
6,900.00	3,669.49	7,766.73	3,674.42	9.17	11.81	-90.17	3,886.93	-1,278.59	1,556.62	1,535.77	20.85	74.651	
7,000.00	3,671.58	7,866.70	3,674.19	9.47	12.11	-90.09	3,986.90	-1,279.58	1,555.78	1,534.33	21.45	72.522	
7,067.78	3,673.00	7,934.46	3,674.04	9.68	12.31	-90.03	4,054.66	-1,280.26	1,555.21	1,533.35	21.86	71.146 SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 2	Database:	Grand Junction
Reference Design:	Plan #6	Offset TVD Reference:	Reference Datum

Offset Design Carson 32-5-9 - Carson 32-5-9 1 - Lateral 3 - Plan #6												Offset Site Error:	0.00 ft
Survey Program: 0-MWD-SDI, 3840-MWD+HDGM												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Reference Depth (ft)	Measured Depth (ft)	Vertical Offset Depth (ft)	Semi Reference (ft)	Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Distance Between Centres (ft)		Minimum Separation (ft)	Separation Factor	Warning
							+N/-S (ft)	+E/-W (ft)					
3,840.00	3,475.14	3,839.98	3,475.80	0.00	0.00	180.00	886.03	327.80	1.03	1.03	0.00	N/A	
3,900.00	3,519.82	3,899.36	3,520.36	0.18	0.71	108.39	924.82	332.90	5.48	4.54	0.94	5.804	
4,000.00	3,576.15	3,988.36	3,581.56	0.48	0.90	117.15	983.44	359.24	40.86	39.16	1.70	24.039	
4,100.00	3,606.97	4,057.13	3,621.90	0.79	0.62	112.81	1,026.83	393.92	102.51	100.66	1.85	55.376	
4,200.00	3,612.99	4,106.69	3,646.14	1.09	1.64	110.70	1,055.96	425.80	180.35	178.54	1.81	99.426 CC, ES	
4,300.00	3,615.09	4,150.00	3,663.53	1.39	2.48	112.55	1,079.37	457.77	264.59	261.37	3.22	82.199	
4,400.00	3,617.18	4,179.76	3,673.28	1.69	3.05	112.35	1,094.13	481.69	351.72	347.63	4.09	85.929	
4,500.00	3,619.27	4,207.35	3,680.63	1.99	3.58	111.62	1,106.75	505.09	441.12	436.23	4.88	90.343	
4,600.00	3,621.36	4,225.00	3,684.45	2.30	3.92	110.96	1,114.23	520.61	532.31	526.88	5.43	98.062	
4,700.00	3,623.46	4,250.00	3,688.68	2.60	4.40	109.86	1,124.01	543.22	624.79	618.65	6.14	101.708	
4,800.00	3,625.55	4,265.96	3,690.64	2.90	4.71	109.08	1,129.73	558.00	718.44	711.79	6.65	108.017	
4,900.00	3,627.64	4,275.00	3,691.49	3.20	4.89	108.61	1,132.77	566.46	813.03	806.02	7.01	116.011	
5,000.00	3,629.73	4,291.87	3,692.58	3.50	5.21	107.71	1,138.08	582.43	908.27	900.72	7.55	120.331	
5,100.00	3,631.83	4,300.00	3,692.87	3.80	5.36	107.26	1,140.47	590.20	1,004.16	996.26	7.90	127.117	
5,200.00	3,633.92	4,315.17	3,693.00	4.10	5.65	106.40	1,144.60	604.80	1,100.56	1,092.14	8.41	130.811	
5,300.00	3,636.01	4,328.08	3,692.89	4.40	5.89	105.69	1,147.94	617.27	1,197.29	1,188.41	8.88	134.791	
5,400.00	3,638.10	4,352.17	3,692.68	4.71	6.32	104.51	1,154.18	640.53	1,294.12	1,284.52	9.60	134.860	
5,500.00	3,640.20	4,376.25	3,692.47	5.01	6.76	103.49	1,160.41	663.79	1,390.98	1,380.67	10.31	134.906	
5,600.00	3,642.29	4,400.33	3,692.26	5.31	7.21	102.59	1,166.64	687.05	1,487.87	1,476.84	11.03	134.929	
5,700.00	3,644.38	4,424.42	3,692.05	5.61	7.66	101.79	1,172.88	710.32	1,584.77	1,572.99	11.78	134.536	
5,800.00	3,646.47	4,448.51	3,691.84	5.91	8.11	101.00	1,179.01	738.65	1,681.66	1,669.88	12.50	134.143	
5,900.00	3,648.57	4,472.60	3,691.63	6.21	8.56	100.21	1,185.14	766.58	1,778.55	1,766.77	13.21	133.750	
6,000.00	3,650.66	4,496.69	3,691.42	6.51	9.01	99.42	1,191.27	794.51	1,875.44	1,863.66	13.92	133.357	
6,100.00	3,652.75	4,520.78	3,691.21	6.81	9.46	98.63	1,197.40	822.44	1,972.33	1,960.55	14.63	132.964	
6,200.00	3,654.84	4,544.87	3,691.00	7.11	9.91	97.84	1,203.53	850.37	2,069.22	2,057.44	15.34	132.571	
6,300.00	3,656.93	4,568.96	3,690.79	7.41	10.36	97.05	1,209.66	878.30	2,166.11	2,154.33	16.05	132.178	
6,400.00	3,659.03	4,593.05	3,690.58	7.71	10.81	96.26	1,215.79	906.23	2,263.00	2,251.22	16.76	131.785	
6,500.00	3,661.12	4,617.14	3,690.37	8.02	11.26	95.47	1,221.92	934.16	2,359.89	2,347.94	17.47	131.392	
6,600.00	3,663.21	4,641.23	3,690.16	8.32	11.71	94.68	1,228.05	962.09	2,456.78	2,444.90	18.18	131.000	
6,700.00	3,665.30	4,665.32	3,689.95	8.62	12.16	93.89	1,234.18	989.92	2,553.67	2,541.80	18.89	130.607	
6,800.00	3,667.40	4,689.41	3,689.74	8.92	12.61	93.10	1,240.31	1,017.85	2,650.56	2,638.70	19.60	130.214	
6,900.00	3,669.49	4,713.50	3,689.53	9.22	13.06	92.31	1,246.44	1,045.78	2,747.45	2,735.60	20.31	129.821	
7,000.00	3,671.58	4,737.59	3,689.32	9.52	13.51	91.52	1,252.57	1,073.71	2,844.34	2,832.49	21.02	129.428	
7,067.78	3,673.00	4,750.00	3,689.11	9.72	13.96	90.73	1,258.70	1,101.64	2,941.23	2,929.38	21.73	129.035	SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 2	Database:	Grand Junction
Reference Design:	Plan #6	Offset TVD Reference:	Reference Datum

Offset Design Carson 32-5-9 - Carson 32-5-9 1 - Pilot - Plan #4													Offset Site Error:	0.00 ft
Survey Program: 0-MWD-SDI													Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Reference Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Reference (ft)	Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Distance Between Centres (ft)		Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
3,855.00	3,486.02	3,854.95	3,487.27	0.00	0.00	180.00	895.65	327.80	1.95	1.95	0.00	N/A		
3,900.00	3,519.82	3,899.88	3,521.68	0.14	0.13	180.00	924.53	327.80	2.89	2.63	0.27	10.739		
4,000.00	3,576.15	3,995.87	3,595.22	0.44	0.42	180.00	986.23	327.80	29.67	28.81	0.86	34.663		
4,100.00	3,606.97	4,080.40	3,659.97	0.74	0.68	180.00	1,040.56	327.80	82.46	81.05	1.41	58.540		
4,200.00	3,612.99	4,149.10	3,712.60	1.04	0.88	-179.12	1,084.72	327.80	154.96	153.04	1.91	80.918 CC, ES, SF		
4,300.00	3,615.09	4,214.96	3,763.05	1.35	1.08	-179.62	1,127.06	327.80	230.20	227.78	2.41	95.342		
4,400.00	3,617.18	4,280.81	3,813.50	1.65	1.28	-179.93	1,169.39	327.80	305.44	302.53	2.91	104.828		
4,500.00	3,619.27	4,346.67	3,863.95	1.95	1.48	179.88	1,211.72	327.80	380.69	377.28	3.41	111.539		
4,600.00	3,621.36	4,412.53	3,914.40	2.25	1.68	179.75	1,254.05	327.80	455.94	452.03	3.91	116.539		
4,700.00	3,623.46	4,478.38	3,964.84	2.55	1.88	179.66	1,296.38	327.80	531.19	526.78	4.41	120.409		
4,800.00	3,625.55	4,524.28	4,000.00	2.85	2.01	179.61	1,325.88	327.80	606.77	601.92	4.85	125.056		
4,900.00	3,627.64	4,524.28	4,000.00	3.15	2.01	179.61	1,325.88	327.80	687.07	681.92	5.16	133.243		
5,000.00	3,629.73	4,524.28	4,000.00	3.46	2.01	179.61	1,325.88	327.80	771.99	766.53	5.46	141.383		
5,100.00	3,631.83	4,524.28	4,000.00	3.76	2.01	179.61	1,325.88	327.80	860.16	854.39	5.76	149.247		
5,200.00	3,633.92	4,524.28	4,000.00	4.06	2.01	179.61	1,325.88	327.80	950.67	944.60	6.07	156.723		
5,300.00	3,636.01	4,524.28	4,000.00	4.36	2.01	179.61	1,325.88	327.80	1,042.92	1,036.55	6.37	163.771		
5,400.00	3,638.10	4,524.28	4,000.00	4.66	2.01	179.61	1,325.88	327.80	1,136.47	1,129.80	6.67	170.384		
5,500.00	3,640.20	4,524.28	4,000.00	4.96	2.01	179.61	1,325.88	327.80	1,231.05	1,224.07	6.97	176.575		
5,600.00	3,642.29	4,524.28	4,000.00	5.26	2.01	179.61	1,325.88	327.80	1,326.41	1,319.14	7.27	182.366		
5,700.00	3,644.38	4,524.28	4,000.00	5.56	2.01	179.61	1,325.88	327.80	1,422.42	1,414.84	7.57	187.783		
5,800.00	3,646.47	4,524.28	4,000.00	5.86	2.01	179.61	1,325.88	327.80	1,518.94	1,511.06	7.88	192.853		
5,900.00	3,648.57	4,524.28	4,000.00	6.17	2.01	179.61	1,325.88	327.80	1,615.88	1,607.70	8.18	197.604		
6,000.00	3,650.66	4,524.28	4,000.00	6.47	2.01	179.61	1,325.88	327.80	1,713.18	1,704.70	8.48	202.061		
6,100.00	3,652.75	4,524.28	4,000.00	6.77	2.01	179.61	1,325.88	327.80	1,810.77	1,801.99	8.78	206.247		
6,200.00	3,654.84	4,524.28	4,000.00	7.07	2.01	179.61	1,325.88	327.80	1,908.61	1,899.52	9.08	210.184		
6,300.00	3,656.93	4,524.28	4,000.00	7.37	2.01	179.61	1,325.88	327.80	2,006.66	1,997.28	9.38	213.892		
6,400.00	3,659.03	4,524.28	4,000.00	7.67	2.01	179.61	1,325.88	327.80	2,104.89	2,095.21	9.68	217.390		
6,500.00	3,661.12	4,524.28	4,000.00	7.97	2.01	179.61	1,325.88	327.80	2,203.29	2,193.30	9.98	220.694		
6,600.00	3,663.21	4,524.28	4,000.00	8.27	2.01	179.61	1,325.88	327.80	2,301.82	2,291.54	10.28	223.818		
6,700.00	3,665.30	4,524.28	4,000.00	8.57	2.01	179.61	1,325.88	327.80	2,400.47	2,389.89	10.59	226.777		
6,800.00	3,667.40	4,524.28	4,000.00	8.87	2.01	179.61	1,325.88	327.80	2,499.24	2,488.35	10.89	229.584		
6,900.00	3,669.49	4,524.28	4,000.00	9.17	2.01	179.61	1,325.88	327.80	2,598.09	2,586.90	11.19	232.248		
7,000.00	3,671.58	4,524.28	4,000.00	9.47	2.01	179.61	1,325.88	327.80	2,697.03	2,685.54	11.49	234.781		
7,067.78	3,673.00	4,524.28	4,000.00	9.68	2.01	179.61	1,325.88	327.80	2,764.14	2,752.45	11.69	236.427		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 2	Database:	Grand Junction
Reference Design:	Plan #6	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GL 7230' & RKB 15' @ 7245.00ft

Offset Depths are relative to Offset Datum

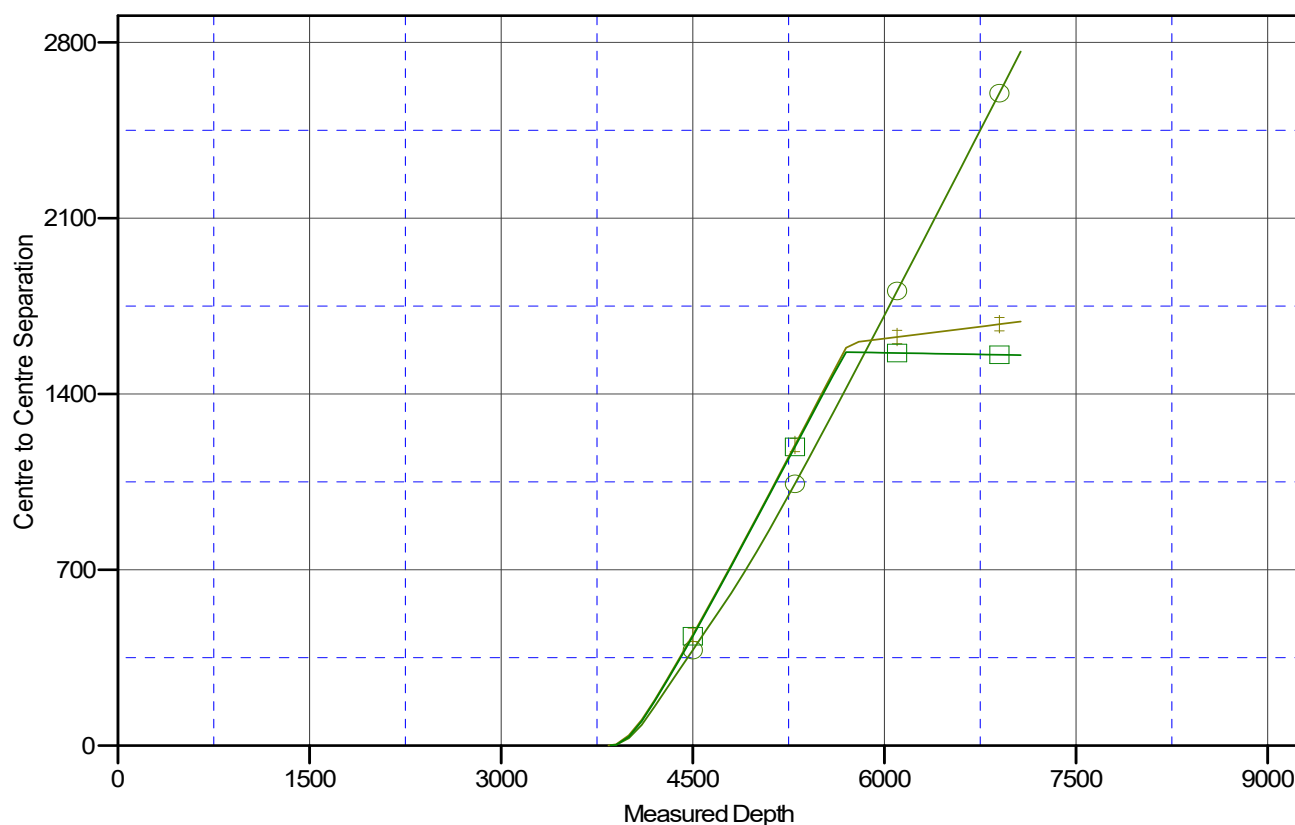
Central Meridian is -106.2500000

Coordinates are relative to: Carson 32-5-9 1

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

Grid Convergence at Surface is: -0.67°

Ladder Plot



LEGEND

Carson 32-5-9 1, Plan #4 V0
 Carson 32-5-9 1, Lateral 3, Plan #6 V0
 Carson 32-5-9 1, Lateral 1, Plan #5 V0



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 2	Database:	Grand Junction
Reference Design:	Plan #6	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GL 7230' & RKB 15' @ 7245.00ft

Offset Depths are relative to Offset Datum

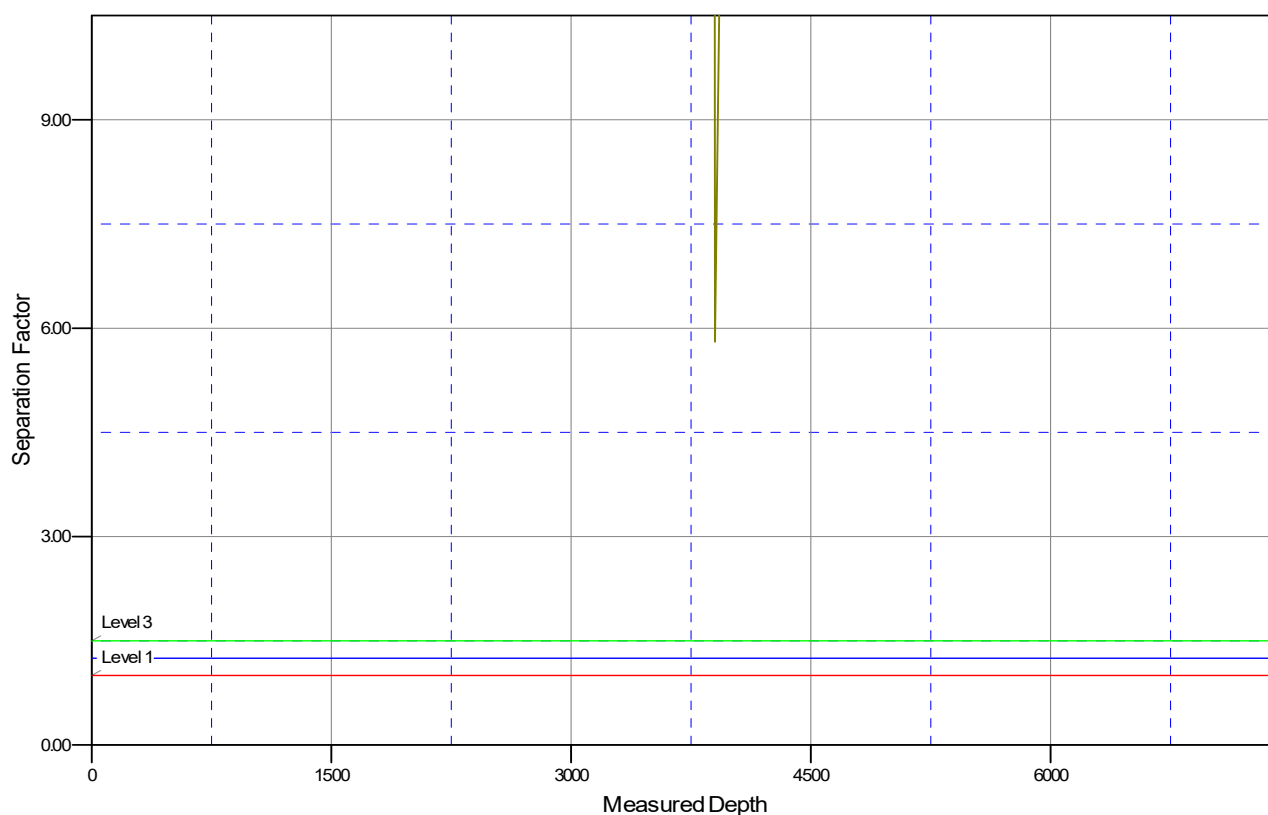
Central Meridian is -106.2500000

Coordinates are relative to: Carson 32-5-9 1

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

Grid Convergence at Surface is: -0.67°

Separation Factor Plot



LEGEND

Carson 32-5-9 1, Plot Plan #4 V0
 Carson 32-5-9 1, Lateral 3, Plan #6 V0
 Carson 32-5-9 1, Lateral 1, Plan #5 V0

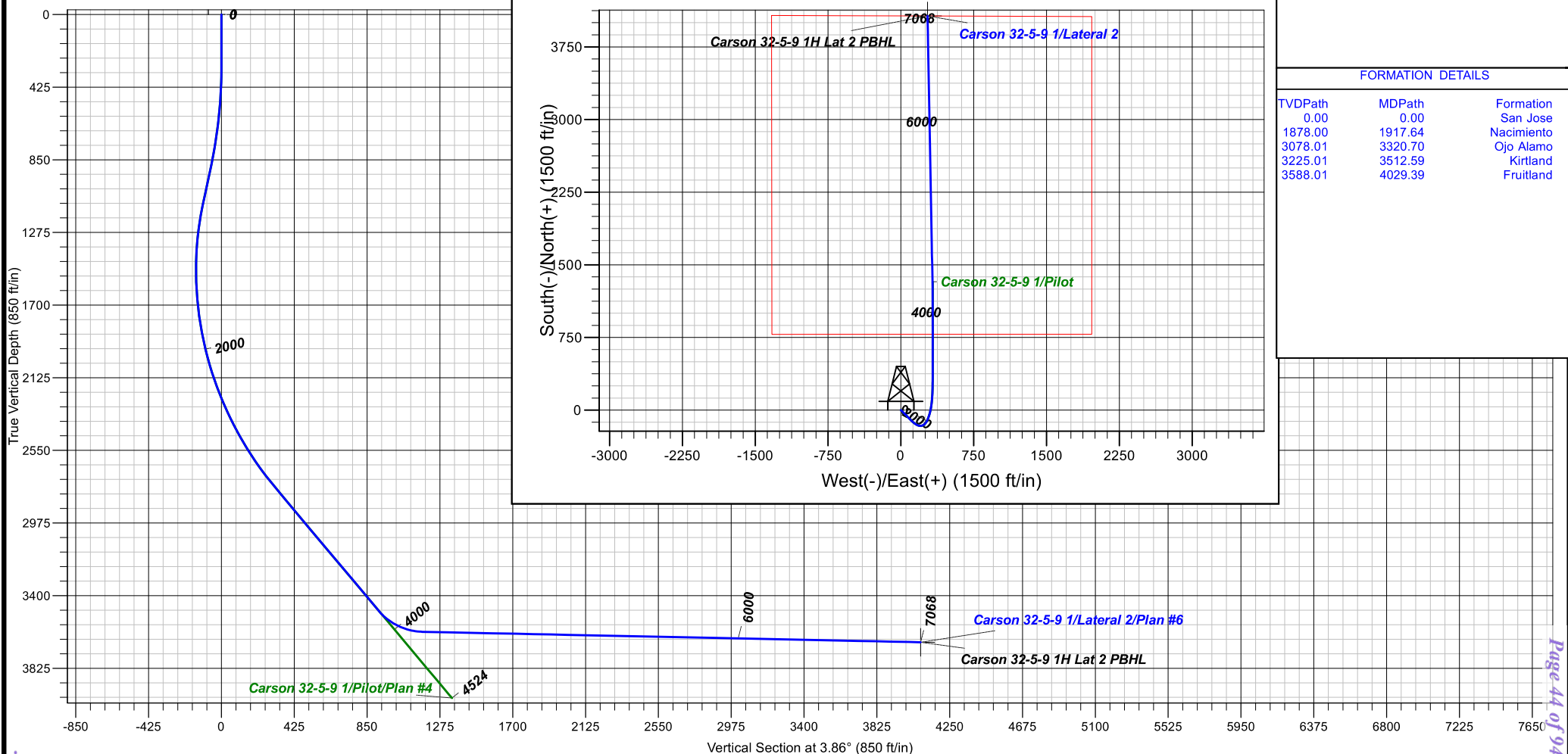


Magnetic Field
Strength: 49789.20 T
Dip Angle: 63.43°
Date: 4/16/2020
Model: HDGM FILE

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
3855.00	40.00	0.00	3487.31	895.68	327.80	0.00	0.00	915.73
4152.50	88.80	0.00	3612.00	1155.94	327.80	16.40	0.00	1175.40
4204.98	88.80	358.95	3613.10	1208.40	327.31	2.00	-89.95	1227.71
7067.78	88.80	358.95	3673.00	4070.10	274.88	0.00	0.00	4079.37

No casing data is available

TVDPPath	MDPath	Formation
0.00	0.00	San Jose
1878.00	1917.64	Nacimiento
3078.01	3320.70	Ojo Alamo
3225.01	3512.59	Kirtland
3588.01	4029.39	Fruitland





Coleman Oil & Gas Inc.

Rio Arriba County, NM

Carson 32-5-9

Carson 32-5-9 1

Lateral 2

Plan: Plan #6

Standard Planning Report

04 January, 2022





Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference	Well Carson 32-5-9 1
Company:	Coleman Oil & Gas Inc.	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Project:	Rio Arriba County, NM	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site:	Carson 32-5-9	North Reference:	True
Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 2		
Design:	Plan #6		

Project	Rio Arriba County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	Carson 32-5-9, Site Center: Carson 32-5-9 1H		
Site Position:		Northing:	2,180,525.56 usft
From:	Lat/Long	Easting:	1,313,970.64 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	36.9871264
		Longitude:	-107.3677452
		Grid Convergence:	-0.67 °

Well	Carson 32-5-9 1, 124' FNL 2626' FEL Sec 16 T32N R5W		
Well Position	+N/-S	0.00 ft	Northing: 2,180,525.56 usft
	+E/-W	0.00 ft	Easting: 1,313,970.64 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	Latitude: 36.9871264
			Longitude: -107.3677452
			Ground Level: 7,230.00 ft

Wellbore	Lateral 2				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM_FILE	4/16/2020	8.82	63.45	49,789.20000000

Design	Plan #6			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	3,855.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	3.86

Plan Survey Tool Program	Date	1/4/2022		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(ft)	(ft)			
1 3,855.00	7,067.78	Plan #6 (Lateral 2)	MWD-SDI	

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100ft)	(°/100ft)	(°/100ft)		
3,855.00	40.00	0.00	3,487.31	895.68	327.80	0.00	0.00	0.00	0.00	
4,152.50	88.80	0.00	3,612.00	1,155.94	327.80	16.40	16.40	0.00	0.00	
4,204.98	88.80	358.95	3,613.10	1,208.40	327.31	2.00	0.00	-2.00	-89.95	
7,067.78	88.80	358.95	3,673.00	4,070.10	274.88	0.00	0.00	0.00	0.00	Carson 32-5-9 1H Lat



Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference	Well Carson 32-5-9 1
Company:	Coleman Oil & Gas Inc.	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Project:	Rio Arriba County, NM	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site:	Carson 32-5-9	North Reference:	True
Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 2		
Design:	Plan #6		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
3,855.00	40.00	0.00	3,487.31	895.68	327.80	915.73	0.00	0.00	0.00	
3,900.00	47.38	0.00	3,519.82	926.74	327.80	946.73	16.40	16.40	0.00	
4,000.00	63.78	0.00	3,576.15	1,008.96	327.80	1,028.75	16.40	16.40	0.00	
4,100.00	80.19	0.00	3,606.97	1,103.73	327.80	1,123.31	16.40	16.40	0.00	
4,152.50	88.80	0.00	3,612.00	1,155.94	327.80	1,175.40	16.40	16.40	0.00	
4,200.00	88.80	359.05	3,612.99	1,203.43	327.40	1,222.75	2.00	0.00	-2.00	
4,204.98	88.80	358.95	3,613.10	1,208.40	327.31	1,227.71	2.00	0.00	-2.00	
4,300.00	88.80	358.95	3,615.09	1,303.39	325.57	1,322.36	0.00	0.00	0.00	
4,400.00	88.80	358.95	3,617.18	1,403.35	323.74	1,421.98	0.00	0.00	0.00	
4,500.00	88.80	358.95	3,619.27	1,503.31	321.91	1,521.59	0.00	0.00	0.00	
4,600.00	88.80	358.95	3,621.36	1,603.27	320.08	1,621.20	0.00	0.00	0.00	
4,700.00	88.80	358.95	3,623.46	1,703.23	318.25	1,720.81	0.00	0.00	0.00	
4,800.00	88.80	358.95	3,625.55	1,803.20	316.42	1,820.42	0.00	0.00	0.00	
4,900.00	88.80	358.95	3,627.64	1,903.16	314.58	1,920.03	0.00	0.00	0.00	
5,000.00	88.80	358.95	3,629.73	2,003.12	312.75	2,019.64	0.00	0.00	0.00	
5,100.00	88.80	358.95	3,631.83	2,103.08	310.92	2,119.25	0.00	0.00	0.00	
5,200.00	88.80	358.95	3,633.92	2,203.04	309.09	2,218.86	0.00	0.00	0.00	
5,300.00	88.80	358.95	3,636.01	2,303.00	307.26	2,318.47	0.00	0.00	0.00	
5,400.00	88.80	358.95	3,638.10	2,402.96	305.43	2,418.08	0.00	0.00	0.00	
5,500.00	88.80	358.95	3,640.20	2,502.92	303.59	2,517.69	0.00	0.00	0.00	
5,600.00	88.80	358.95	3,642.29	2,602.89	301.76	2,617.30	0.00	0.00	0.00	
5,700.00	88.80	358.95	3,644.38	2,702.85	299.93	2,716.91	0.00	0.00	0.00	
5,800.00	88.80	358.95	3,646.47	2,802.81	298.10	2,816.53	0.00	0.00	0.00	
5,900.00	88.80	358.95	3,648.57	2,902.77	296.27	2,916.14	0.00	0.00	0.00	
6,000.00	88.80	358.95	3,650.66	3,002.73	294.44	3,015.75	0.00	0.00	0.00	
6,100.00	88.80	358.95	3,652.75	3,102.69	292.60	3,115.36	0.00	0.00	0.00	
6,200.00	88.80	358.95	3,654.84	3,202.65	290.77	3,214.97	0.00	0.00	0.00	
6,300.00	88.80	358.95	3,656.93	3,302.62	288.94	3,314.58	0.00	0.00	0.00	
6,400.00	88.80	358.95	3,659.03	3,402.58	287.11	3,414.19	0.00	0.00	0.00	
6,500.00	88.80	358.95	3,661.12	3,502.54	285.28	3,513.80	0.00	0.00	0.00	
6,600.00	88.80	358.95	3,663.21	3,602.50	283.45	3,613.41	0.00	0.00	0.00	
6,700.00	88.80	358.95	3,665.30	3,702.46	281.61	3,713.02	0.00	0.00	0.00	
6,800.00	88.80	358.95	3,667.40	3,802.42	279.78	3,812.63	0.00	0.00	0.00	
6,900.00	88.80	358.95	3,669.49	3,902.38	277.95	3,912.24	0.00	0.00	0.00	
7,000.00	88.80	358.95	3,671.58	4,002.34	276.12	4,011.85	0.00	0.00	0.00	
7,067.78	88.80	358.95	3,673.00	4,070.10	274.88	4,079.37	0.00	0.00	0.00	

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Carson 32-5-9 1H Lat 2	0.00	0.00	3,673.00	4,070.10	274.88	2,184,592.14	1,314,293.27	36.9983047	-107.3668040
- plan hits target center									
- Point									



Lonestar Consulting, LLC
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference	Well Carson 32-5-9 1
Company:	Coleman Oil & Gas Inc.	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Project:	Rio Arriba County, NM	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site:	Carson 32-5-9	North Reference:	True
Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 2		
Design:	Plan #6		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
0.00	0.00	San Jose		0.00		
1,917.64	1,878.00	Nacimiento		0.00		
3,320.70	3,078.01	Ojo Alamo		0.00		
3,512.59	3,225.01	Kirtland		0.00		
4,029.39	3,588.01	Fruitland		0.00		



Coleman Oil & Gas Inc.

Rio Arriba County, NM

Carson 32-5-9

Carson 32-5-9 1

Lateral 3

Plan #6

Anticollision Report

17 December, 2021





Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 3	Database:	Grand Junction
Reference Design:	Plan #6	Offset TVD Reference:	Reference Datum

Reference	Plan #6
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method	MD Interval 100.00ft
Depth Range:	Unlimited
Results Limited by:	Maximum centre distance of 10,000.00ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	Systematic Ellipse
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program		Date	12/17/2021		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	3,840.00	Plan #4 (Pilot)	MWD-SDI		
3,840.00	7,920.35	Plan #6 (Lateral 3)	MWD+HDGM	OWSG MWD + HDGM	

Summary						
Site Name	Reference Measure	Offset Measure	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation	Warning
Offset Well - Wellbore - Design						
Carson 32-5-9						
Carson 32-5-9 1 - Lateral 1 - Plan #5	4,200.00	4,025.00	242.88	239.72	76.858	CC, ES
Carson 32-5-9 1 - Lateral 1 - Plan #5	7,920.35	7,910.70	3,245.14	3,195.68	65.611	SF
Carson 32-5-9 1 - Lateral 2 - Plan #5	4,200.00	4,166.27	116.02	112.23	30.635	CC, ES
Carson 32-5-9 1 - Lateral 2 - Plan #5	7,900.00	7,112.17	1,308.84	1,261.13	27.436	SF
Carson 32-5-9 1 - Pilot - Plan #4	4,200.00	4,135.30	174.72	172.00	64.042	CC, ES, SF

Offset Design Carson 32-5-9 - Carson 32-5-9 1 - Lateral 1 - Plan #5												Offset Site Error:	0.00 ft
Survey Program: 0-MWD-SDI, 3870-MWD-SDI												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
3,840.00	3,475.60	3,839.97	3,475.79	0.00	0.00	-106.55	886.02	327.80	1.42	1.42	0.00	N/A	
3,900.00	3,520.83	3,899.09	3,520.84	0.47	0.18	-107.58	924.23	326.36	6.72	6.34	0.39	17.396	
4,000.00	3,588.88	3,975.00	3,574.83	0.65	0.41	-115.26	974.46	309.31	59.08	57.66	1.42	41.485	
4,100.00	3,643.13	4,014.07	3,599.71	1.71	0.54	-117.02	999.95	293.34	144.76	143.82	0.95	153.105	
4,200.00	3,678.83	4,025.00	3,606.23	3.65	0.57	-45.44	1,006.95	288.04	242.88	239.72	3.16	76.858	CC, ES
4,300.00	3,692.87	4,017.73	3,601.92	5.57	0.55	29.70	1,002.30	291.60	341.36	336.58	4.78	71.418	
4,400.00	3,692.26	4,000.00	3,591.03	7.39	0.49	33.54	990.85	299.63	437.00	430.99	6.02	72.639	
4,500.00	3,691.39	4,000.00	3,591.03	9.29	0.49	33.54	990.85	299.63	533.54	526.54	7.01	76.131	
4,600.00	3,690.51	3,987.92	3,583.32	11.31	0.45	34.86	982.96	304.55	630.81	622.84	7.97	79.169	
4,700.00	3,689.61	3,975.00	3,574.83	13.46	0.41	20.50	974.46	309.31	729.02	720.10	8.92	81.772	
4,800.00	3,688.64	3,975.00	3,574.83	15.73	0.41	-5.44	974.46	309.31	827.73	817.82	9.91	83.546	
4,900.00	3,687.59	3,975.00	3,574.83	18.08	0.41	-31.80	974.46	309.31	926.61	915.62	10.99	84.311	
5,000.00	3,686.47	3,975.00	3,574.83	20.42	0.41	-50.13	974.46	309.31	1,025.14	1,013.01	12.14	84.457	
5,100.00	3,685.30	3,975.00	3,574.83	22.72	0.41	-61.27	974.46	309.31	1,122.95	1,109.63	13.32	84.302	
5,200.00	3,684.07	3,975.00	3,574.83	24.95	0.41	-68.19	974.46	309.31	1,219.74	1,205.23	14.51	84.070	
5,300.00	3,682.80	3,975.00	3,574.83	27.06	0.41	-72.75	974.46	309.31	1,315.25	1,299.58	15.68	83.905	
5,400.00	3,681.49	3,988.18	3,583.49	29.05	0.45	-77.10	983.13	304.44	1,408.95	1,392.17	16.78	83.955	
5,500.00	3,680.14	4,000.00	3,591.03	30.89	0.49	-80.03	990.85	299.63	1,501.15	1,483.32	17.84	84.159	
5,600.00	3,678.78	4,000.00	3,591.03	32.58	0.49	-81.47	990.85	299.63	1,591.21	1,572.38	18.83	84.500	
5,700.00	3,677.39	4,000.00	3,591.03	34.10	0.49	-82.61	990.85	299.63	1,679.23	1,659.50	19.73	85.108	
5,800.00	3,675.99	4,000.00	3,591.03	35.46	0.49	-83.52	990.85	299.63	1,765.06	1,744.54	20.52	86.000	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 3	Database:	Grand Junction
Reference Design:	Plan #6	Offset TVD Reference:	Reference Datum

Offset Design Carson 32-5-9 - Carson 32-5-9 1 - Lateral 1 - Plan #5												Offset Site Error:	0.00 ft
Survey Program: 0-MWD-SDI, 3870-MWD-SDI												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,900.00	3,674.60	4,025.00	3,606.23	36.65	0.57	-85.18	1,006.95	288.04	1,848.26	1,827.04	21.23	87.062	
6,000.00	3,673.21	4,025.00	3,606.23	37.68	0.57	-85.70	1,006.95	288.04	1,928.76	1,906.96	21.80	88.493	
6,100.00	3,671.83	4,025.00	3,606.23	38.55	0.57	-86.15	1,006.95	288.04	2,006.67	1,984.45	22.22	90.295	
6,200.00	3,670.47	4,038.86	3,614.19	39.27	0.62	-86.88	1,015.71	280.82	2,081.58	2,059.04	22.54	92.351	
6,300.00	3,669.14	4,050.00	3,620.32	39.86	0.66	-87.43	1,022.64	274.63	2,153.54	2,130.84	22.70	94.868	
6,400.00	3,667.84	4,050.00	3,620.32	40.35	0.66	-87.48	1,022.64	274.63	2,224.12	2,201.44	22.68	98.051	
6,500.00	3,666.53	4,064.18	3,627.78	40.86	0.73	-87.77	1,031.32	266.25	2,296.50	2,273.87	22.63	101.471	
6,600.00	3,665.23	4,075.00	3,633.19	41.40	0.79	-87.98	1,037.81	259.50	2,370.75	2,348.23	22.52	105.276	
6,700.00	3,663.92	4,075.00	3,633.19	41.95	0.79	-87.98	1,037.81	259.50	2,446.66	2,424.33	22.33	109.566	
6,800.00	3,662.62	4,087.75	3,639.26	42.52	0.84	-88.22	1,045.31	251.16	2,524.03	2,501.86	22.17	113.867	
6,900.00	3,661.31	4,100.00	3,644.75	43.12	0.89	-88.43	1,052.34	242.78	2,602.85	2,580.87	21.97	118.454	
7,000.00	3,660.01	4,100.00	3,644.75	43.74	0.89	-88.43	1,052.34	242.78	2,682.87	2,661.19	21.69	123.704	
7,100.00	3,658.70	4,100.00	3,644.75	44.38	0.89	-88.43	1,052.34	242.78	2,764.20	2,742.83	21.38	129.311	
7,200.00	3,657.40	4,125.00	3,654.91	45.05	0.98	-88.81	1,066.12	224.57	2,846.50	2,825.27	21.23	134.095	
7,300.00	3,656.09	4,125.00	3,654.91	45.74	0.98	-88.81	1,066.12	224.57	2,929.68	2,908.79	20.88	140.282	
7,400.00	3,654.79	4,125.00	3,654.91	46.46	0.98	-88.81	1,066.12	224.57	3,013.88	2,993.35	20.53	146.838	
7,500.00	3,653.48	4,125.00	3,654.91	47.20	0.98	-88.81	1,066.12	224.57	3,099.01	3,078.86	20.15	153.774	
7,600.00	3,652.18	4,150.00	3,663.60	47.96	1.06	-89.14	1,079.05	205.02	3,184.85	3,164.87	19.98	159.403	
7,700.00	3,650.88	7,690.69	3,674.59	48.75	11.62	-90.38	3,810.90	-1,277.83	3,232.95	3,186.97	45.98	70.313	
7,800.00	3,649.57	7,790.54	3,674.36	49.56	11.92	-90.40	3,910.74	-1,278.83	3,238.48	3,190.93	47.55	68.105	
7,900.00	3,648.27	7,890.38	3,674.13	50.40	12.22	-90.42	4,010.58	-1,279.82	3,244.02	3,194.88	49.14	66.021	
7,920.35	3,648.00	7,910.70	3,674.09	50.57	12.29	-90.42	4,030.89	-1,280.02	3,245.14	3,195.68	49.46	65.611 SF	



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 3	Database:	Grand Junction
Reference Design:	Plan #6	Offset TVD Reference:	Reference Datum

Offset Design Carson 32-5-9 - Carson 32-5-9 1 - Lateral 2 - Plan #5													Offset Site Error:	0.00 ft
Survey Program: 0-MWD-SDI, 3855-MWD-SDI													Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Reference Depth (ft)	Measured Depth (ft)	Vertical Offset Depth (ft)	Semi Reference (ft)	Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
3,840.00	3,475.60	3,839.97	3,475.79	0.00	0.00	-106.55	886.02	327.80	1.42	1.42	0.00	N/A		
3,900.00	3,520.83	3,899.96	3,519.93	0.47	0.18	-75.16	926.49	329.82	3.54	2.69	0.85	4.181		
4,000.00	3,588.88	3,997.03	3,575.59	0.65	0.48	-62.27	1,003.47	347.68	24.67	23.09	1.58	15.620		
4,100.00	3,643.13	4,086.03	3,605.11	1.71	0.75	-60.89	1,081.07	378.84	63.83	61.84	1.99	32.023		
4,200.00	3,678.83	4,166.27	3,612.42	3.65	0.99	-57.41	1,151.34	416.53	116.02	112.23	3.79	30.635 CC, ES		
4,300.00	3,692.87	4,236.78	3,613.97	5.57	1.20	-55.45	1,213.53	449.71	176.92	171.30	5.61	31.508		
4,400.00	3,692.26	4,300.00	3,615.35	7.39	1.39	-63.10	1,270.45	477.16	246.23	238.75	7.48	32.921		
4,500.00	3,691.39	4,349.04	3,616.43	9.29	1.54	-68.21	1,315.32	496.93	320.52	311.61	8.92	35.946		
4,600.00	3,690.51	4,400.00	3,617.55	11.31	1.69	-72.03	1,362.54	516.04	398.15	387.80	10.35	38.454		
4,700.00	3,689.61	4,446.08	3,618.55	13.46	1.83	-75.69	1,405.74	532.05	476.65	465.04	11.61	41.052		
4,800.00	3,688.64	4,500.00	3,619.73	15.73	2.00	-78.62	1,456.84	549.22	552.90	539.88	13.01	42.490		
4,900.00	3,687.59	4,543.63	3,620.68	18.08	2.13	-80.47	1,498.58	561.88	626.43	612.45	13.98	44.801		
5,000.00	3,686.47	4,600.00	3,621.90	20.42	2.30	-82.06	1,552.98	576.58	697.21	681.97	15.24	45.752		
5,100.00	3,685.30	4,644.07	3,622.85	22.72	2.43	-83.13	1,595.85	586.77	764.91	749.00	15.91	48.069		
5,200.00	3,684.07	4,700.00	3,624.05	24.95	2.60	-84.10	1,650.61	598.02	829.55	812.70	16.85	49.231		
5,300.00	3,682.80	4,746.72	3,625.04	27.06	2.74	-84.81	1,696.64	605.99	890.90	873.65	17.25	51.647		
5,400.00	3,681.49	4,800.00	3,626.17	29.05	2.90	-85.44	1,749.38	613.46	948.92	931.20	17.72	53.554		
5,500.00	3,680.14	4,851.08	3,627.23	30.89	3.06	-85.95	1,800.14	619.01	1,003.49	985.59	17.90	56.072		
5,600.00	3,678.78	4,900.00	3,628.24	32.58	3.23	-86.39	1,848.90	622.84	1,054.54	1,036.78	17.76	59.391		
5,700.00	3,677.39	4,956.76	3,629.40	34.10	3.41	-86.79	1,905.58	625.45	1,101.95	1,084.18	17.77	62.009		
5,800.00	3,675.99	5,030.17	3,630.88	35.46	3.63	-87.18	1,978.97	626.65	1,145.26	1,126.82	18.44	62.109		
5,900.00	3,674.60	5,122.99	3,632.75	36.65	3.91	-87.56	2,071.76	627.93	1,182.11	1,162.20	19.91	59.363		
6,000.00	3,673.21	5,218.30	3,634.67	37.68	4.20	-87.89	2,167.04	629.25	1,212.00	1,190.67	21.33	56.815		
6,100.00	3,671.83	5,315.57	3,636.63	38.55	4.49	-88.18	2,264.28	630.60	1,234.76	1,212.07	22.69	54.429		
6,200.00	3,670.47	5,414.27	3,638.62	39.27	4.79	-88.44	2,362.95	631.96	1,250.25	1,226.29	23.97	52.167		
6,300.00	3,669.14	5,513.85	3,640.63	39.86	5.09	-88.67	2,462.50	633.34	1,258.40	1,233.23	25.17	49.992		
6,400.00	3,667.84	5,613.74	3,642.64	40.35	5.39	-88.83	2,562.36	634.72	1,261.61	1,235.27	26.35	47.888		
6,500.00	3,666.53	5,713.64	3,644.65	40.86	5.69	-88.99	2,662.23	636.10	1,264.70	1,237.14	27.56	45.887		
6,600.00	3,665.23	5,813.53	3,646.67	41.40	5.99	-89.14	2,762.09	637.48	1,267.79	1,238.98	28.82	43.993		
6,700.00	3,663.92	5,913.43	3,648.68	41.95	6.29	-89.29	2,861.96	638.87	1,270.90	1,240.79	30.11	42.203		
6,800.00	3,662.62	6,013.32	3,650.69	42.52	6.59	-89.44	2,961.83	640.25	1,274.01	1,242.57	31.44	40.517		
6,900.00	3,661.31	6,113.22	3,652.71	43.12	6.89	-89.59	3,061.69	641.63	1,277.14	1,244.33	32.81	38.930		
7,000.00	3,660.01	6,213.11	3,654.72	43.74	7.19	-89.74	3,161.56	643.01	1,280.27	1,246.07	34.20	37.437		
7,100.00	3,658.70	6,313.01	3,656.73	44.38	7.49	-89.89	3,261.42	644.39	1,283.41	1,247.79	35.62	36.034		
7,200.00	3,657.40	6,412.90	3,658.75	45.05	7.79	-90.04	3,361.29	645.77	1,286.56	1,249.50	37.06	34.715		
7,300.00	3,656.09	6,512.80	3,660.76	45.74	8.09	-90.18	3,461.15	647.16	1,289.72	1,251.19	38.53	33.476		
7,400.00	3,654.79	6,612.69	3,662.77	46.46	8.39	-90.33	3,561.02	648.54	1,292.88	1,252.87	40.01	32.311		
7,500.00	3,653.48	6,712.59	3,664.78	47.20	8.69	-90.48	3,660.88	649.92	1,296.06	1,254.54	41.52	31.216		
7,600.00	3,652.18	6,812.48	3,666.80	47.96	8.99	-90.62	3,760.75	651.30	1,299.24	1,256.20	43.04	30.185		
7,700.00	3,650.88	6,912.38	3,668.81	48.75	9.29	-90.77	3,860.61	652.68	1,302.43	1,257.85	44.58	29.214		
7,800.00	3,649.57	7,012.27	3,670.82	49.56	9.59	-90.91	3,960.48	654.06	1,305.63	1,259.49	46.14	28.299		
7,900.00	3,648.27	7,112.17	3,672.84	50.40	9.89	-91.05	4,060.35	655.45	1,308.84	1,261.13	47.71	27.436 SF		
7,920.35	3,648.00	7,120.33	3,673.00	50.57	9.91	-91.06	4,068.51	655.56	1,309.55	1,261.91	47.64	27.488		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 3	Database:	Grand Junction
Reference Design:	Plan #6	Offset TVD Reference:	Reference Datum

Offset Design Carson 32-5-9 - Carson 32-5-9 1 - Pilot - Plan #4												Offset Site Error:	0.00 ft
Survey Program: 0-MWD-SDI												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Reference Depth (ft)	Offset Measured Depth (ft)	Vertical Offset Depth (ft)	Semi Major Reference (ft)	Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
3,840.00	3,475.60	3,839.97	3,475.79	0.00	0.00	-106.55	886.02	327.80	1.42	1.42	0.00	N/A	
3,900.00	3,520.83	3,899.68	3,521.53	0.47	0.18	-112.95	924.40	327.80	5.33	4.72	0.61	8.726	
4,000.00	3,588.88	3,994.05	3,593.83	0.65	0.46	-126.67	985.06	327.80	37.29	36.31	0.98	38.145	
4,100.00	3,643.13	4,074.95	3,655.80	1.71	0.71	-135.02	1,037.06	327.80	95.45	93.74	1.71	55.938	
4,200.00	3,678.83	4,135.30	3,702.02	3.65	0.89	-139.46	1,075.85	327.80	174.72	172.00	2.73	64.042 CC, ES, SF	
4,300.00	3,692.87	4,169.82	3,728.47	5.57	0.99	-141.01	1,098.04	327.80	268.19	264.50	3.69	72.718	
4,400.00	3,692.26	4,186.12	3,740.96	7.39	1.04	-141.03	1,108.52	327.80	366.84	362.30	4.54	80.727	
4,500.00	3,691.39	4,202.09	3,753.19	9.29	1.09	-141.03	1,118.78	327.80	465.56	460.21	5.35	87.066	
4,600.00	3,690.51	4,218.05	3,765.42	11.31	1.14	-141.03	1,129.05	327.80	564.28	558.17	6.11	92.419	
4,700.00	3,689.61	4,235.65	3,778.90	13.46	1.19	-128.16	1,140.36	327.80	662.68	655.79	6.89	96.243	
4,800.00	3,688.64	4,257.64	3,795.75	15.73	1.26	-120.33	1,154.50	327.80	759.95	752.17	7.78	97.639	
4,900.00	3,687.59	4,283.98	3,815.92	18.08	1.34	-116.20	1,171.42	327.80	855.69	846.92	8.78	97.487	
5,000.00	3,686.47	4,314.50	3,839.31	20.42	1.43	-113.85	1,191.05	327.80	949.57	939.73	9.84	96.513	
5,100.00	3,685.30	4,349.05	3,865.77	22.72	1.53	-112.47	1,213.25	327.80	1,041.27	1,030.33	10.94	95.188	
5,200.00	3,684.07	4,387.44	3,895.18	24.95	1.65	-111.67	1,237.93	327.80	1,130.52	1,118.47	12.05	93.791	
5,300.00	3,682.80	4,429.45	3,927.36	27.06	1.77	-111.22	1,264.93	327.80	1,217.07	1,203.91	13.16	92.469	
5,400.00	3,681.49	4,474.84	3,962.13	29.05	1.91	-111.02	1,294.11	327.80	1,300.70	1,286.45	14.25	91.290	
5,500.00	3,680.14	4,523.38	3,999.32	30.89	2.06	-111.00	1,325.31	327.80	1,381.19	1,365.89	15.30	90.280	
5,600.00	3,678.78	4,524.28	4,000.00	32.58	2.06	-109.25	1,325.88	327.80	1,459.23	1,442.38	16.85	86.614	
5,700.00	3,677.39	4,524.28	4,000.00	34.10	2.06	-107.71	1,325.88	327.80	1,535.58	1,517.32	18.27	84.070	
5,800.00	3,675.99	4,524.28	4,000.00	35.46	2.06	-106.38	1,325.88	327.80	1,610.11	1,590.57	19.54	82.406	
5,900.00	3,674.60	4,524.28	4,000.00	36.65	2.06	-105.22	1,325.88	327.80	1,682.67	1,662.01	20.66	81.443	
6,000.00	3,673.21	4,524.28	4,000.00	37.68	2.06	-104.21	1,325.88	327.80	1,753.13	1,731.51	21.62	81.073	
6,100.00	3,671.83	4,524.28	4,000.00	38.55	2.06	-103.33	1,325.88	327.80	1,821.37	1,798.95	22.42	81.240	
6,200.00	3,670.47	4,524.28	4,000.00	39.27	2.06	-102.57	1,325.88	327.80	1,887.27	1,864.24	23.04	81.926	
6,300.00	3,669.14	4,524.28	4,000.00	39.86	2.06	-101.90	1,325.88	327.80	1,950.73	1,927.27	23.46	83.147	
6,400.00	3,667.84	4,524.28	4,000.00	40.35	2.06	-101.79	1,325.88	327.80	2,013.52	1,989.81	23.70	84.947	
6,500.00	3,666.53	4,524.28	4,000.00	40.86	2.06	-101.79	1,325.88	327.80	2,079.13	2,055.31	23.82	87.289	
6,600.00	3,665.23	4,524.28	4,000.00	41.40	2.06	-101.79	1,325.88	327.80	2,147.39	2,123.55	23.84	90.094	
6,700.00	3,663.92	4,524.28	4,000.00	41.95	2.06	-101.79	1,325.88	327.80	2,218.06	2,194.29	23.77	93.320	
6,800.00	3,662.62	4,524.28	4,000.00	42.52	2.06	-101.79	1,325.88	327.80	2,290.92	2,267.29	23.63	96.939	
6,900.00	3,661.31	4,524.28	4,000.00	43.12	2.06	-101.79	1,325.88	327.80	2,365.76	2,342.32	23.44	100.930	
7,000.00	3,660.01	4,524.28	4,000.00	43.74	2.06	-101.79	1,325.88	327.80	2,442.40	2,419.21	23.20	105.280	
7,100.00	3,658.70	4,524.28	4,000.00	44.38	2.06	-101.79	1,325.88	327.80	2,520.69	2,497.77	22.92	109.980	
7,200.00	3,657.40	4,524.28	4,000.00	45.05	2.06	-101.79	1,325.88	327.80	2,600.46	2,577.85	22.61	115.028	
7,300.00	3,656.09	4,524.28	4,000.00	45.74	2.06	-101.79	1,325.88	327.80	2,681.58	2,659.31	22.27	120.422	
7,400.00	3,654.79	4,524.28	4,000.00	46.46	2.06	-101.79	1,325.88	327.80	2,763.95	2,742.04	21.91	126.167	
7,500.00	3,653.48	4,524.28	4,000.00	47.20	2.06	-101.79	1,325.88	327.80	2,847.44	2,825.91	21.53	132.268	
7,600.00	3,652.18	4,524.28	4,000.00	47.96	2.06	-101.79	1,325.88	327.80	2,931.97	2,910.83	21.13	138.735	
7,700.00	3,650.88	4,524.28	4,000.00	48.75	2.06	-101.79	1,325.88	327.80	3,017.44	2,996.71	20.73	145.582	
7,800.00	3,649.57	4,524.28	4,000.00	49.56	2.06	-101.79	1,325.88	327.80	3,103.78	3,083.47	20.31	152.822	
7,900.00	3,648.27	4,524.28	4,000.00	50.40	2.06	-101.79	1,325.88	327.80	3,190.92	3,171.04	19.88	160.477	
7,920.35	3,648.00	4,524.28	4,000.00	50.57	2.06	-101.79	1,325.88	327.80	3,208.75	3,188.95	19.80	162.088	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Lonestar Consulting, LLC

Anticollision Report

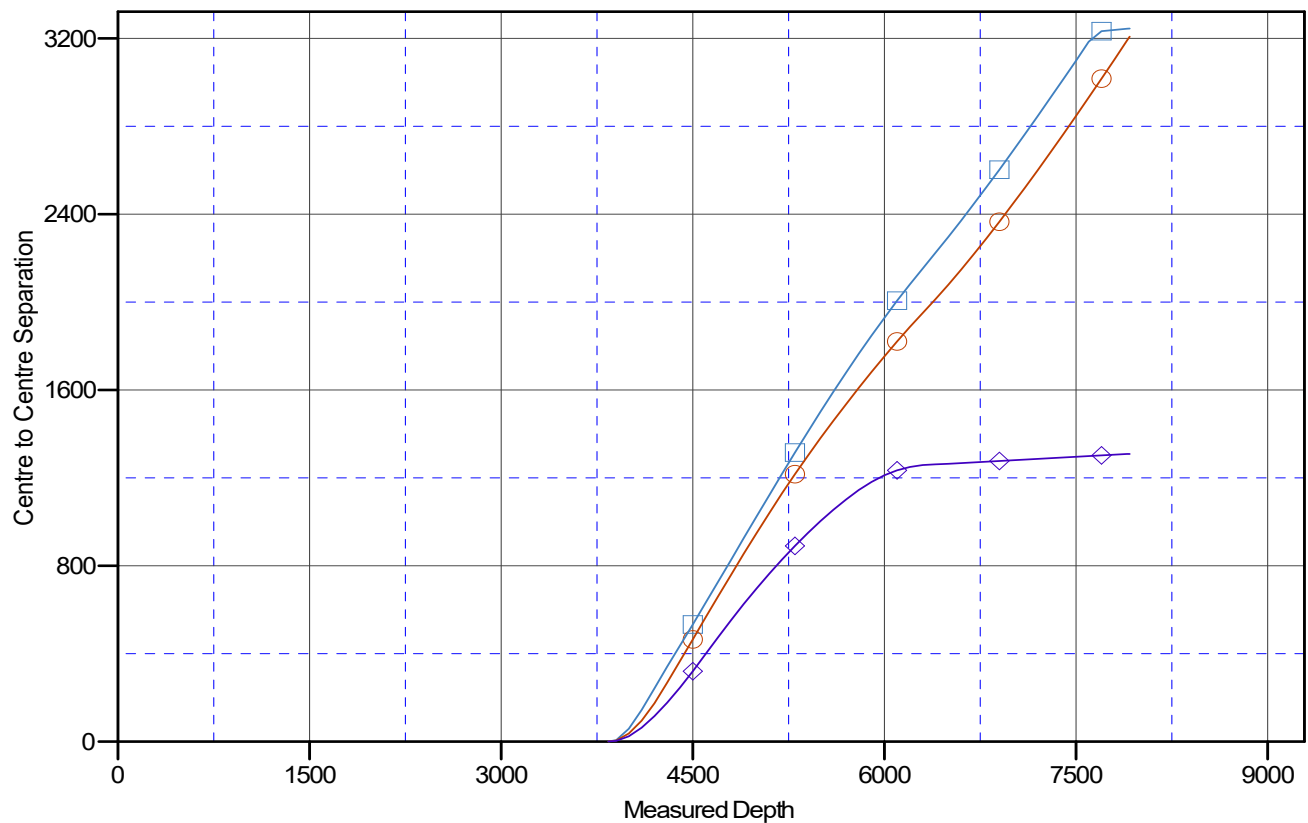


Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 3	Database:	Grand Junction
Reference Design:	Plan #6	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GL 7230' & RKB 15' @ 7245.00ft
 Offset Depths are relative to Offset Datum
 Central Meridian is -106.2500000

Coordinates are relative to: Carson 32-5-9 1
 Coordinate System is US State Plane 1983, New Mexico Central Zone
 Grid Convergence at Surface is: -0.67°

Ladder Plot



LEGEND

Carson 32-5-9 1, Lateral 1, Plan #5 VD
 Carson 32-5-9 1, Plot, Plan #4 VD
 Carson 32-5-9 1, Lateral 2, Plan #5 VD



Lonestar Consulting, LLC

Anticollision Report

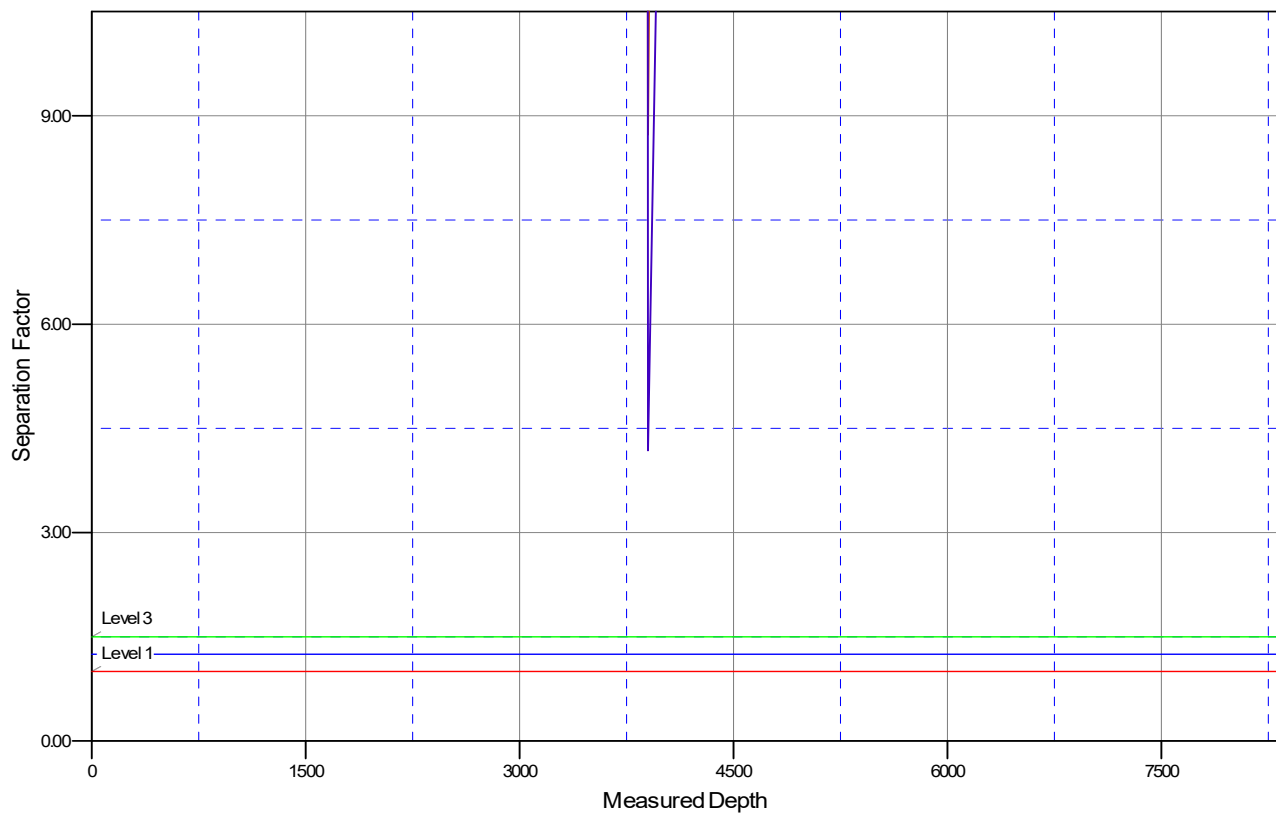


Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 3	Database:	Grand Junction
Reference Design:	Plan #6	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GL 7230' & RKB 15' @ 7245.00ft
 Offset Depths are relative to Offset Datum
 Central Meridian is -106.2500000

Coordinates are relative to: Carson 32-5-9 1
 Coordinate System is US State Plane 1983, New Mexico Central Zone
 Grid Convergence at Surface is: -0.67°

Separation Factor Plot



LEGEND

Carson 32-5-9 1, Lateral 1, Plan #5 V0
 Carson 32-5-9 1, Plot, Plan #4 V0
 Carson 32-5-9 1, Lateral 2, Plan #5 V0

Released to Imaging: 3/9/2022 1:32:08 PM



Company: Coleman Oil & Gas Inc.
Project: Rio Arriba County, NM
Site: Carson 32-5-9
Well: Carson 32-5-9 1
Wellbore: Lateral 3
Design: Plan #6

PROJECT DETAILS: Rio Arriba County, NM

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Central Zone
System Datum: Mean Sea Level
Local North: True



WELL DETAILS: Carson 32-5-9 1

GL 7230' & RKB 15' @ 7245.00ft					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	2180525.56	1313970.64	36.9871264	-107.3677452

Plan: Plan #6 (Carson 32-5-9 1/Lateral 3)

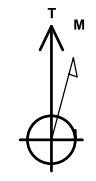
Created By: Janie Collins Date: 15:51, December 17 2021

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Carson 32-5-9 1 Lat 3 PBHL	3648.00	4063.07	1964.86	36.9982852	-107.3610173

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
3840.00	40.00	0.00	3475.81	886.04	327.80	0.00	0.00	940.37
4315.17	90.50	75.00	3693.00	1144.60	604.80	17.01	78.08	1293.74
4615.17	90.50	75.00	3690.38	1222.24	894.56	0.00	0.00	1489.79
6318.64	90.75	2.60	3668.90	2463.14	1892.26	4.25	-89.37	3041.27
7920.35	90.75	2.60	3648.00	4063.07	1964.86	0.00	0.00	4513.22



Azimuths to True North
Magnetic North: 8

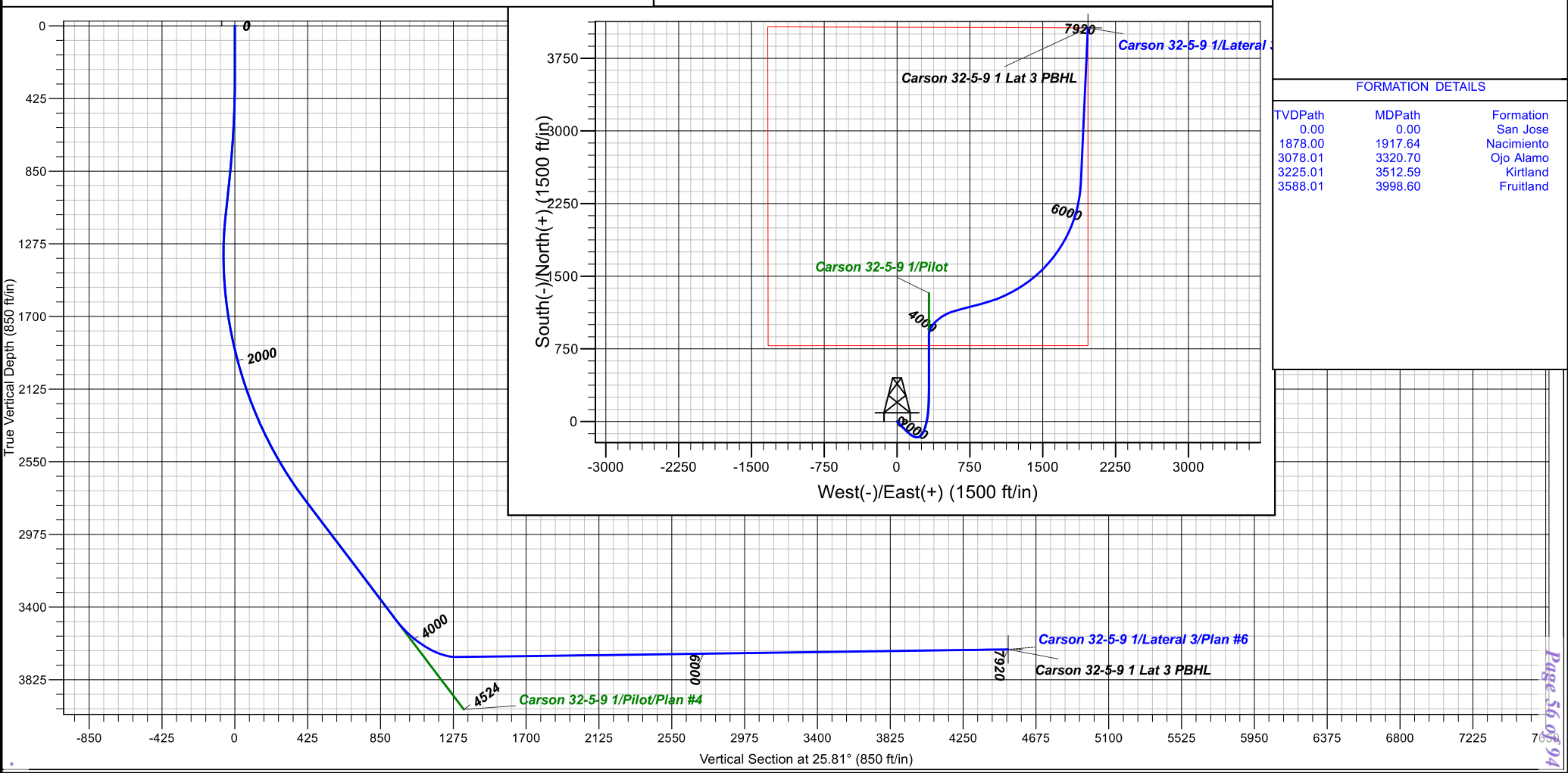
Magnetic Field
Strength: 49789
Dip Angle: 63.63
Date: 4/16/2020
Model: HDGM_FIT

CASING DETAILS

No casing data is available

FORMATION DETAILS

TVDPath	MDPath	Formation
0.00	0.00	San Jose
1878.00	1917.64	Nacimiento
3078.01	3320.70	Ojo Alamo
3225.01	3512.59	Kirtland
3588.01	3998.60	Fruitland



Received by OCB: 3/9/2022 1:32:08 PM



Coleman Oil & Gas Inc.

Rio Arriba County, NM

Carson 32-5-9

Carson 32-5-9 1

Lateral 3

Plan: Plan #6

Standard Planning Report

17 December, 2021





Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference	Well Carson 32-5-9 1
Company:	Coleman Oil & Gas Inc.	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Project:	Rio Arriba County, NM	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site:	Carson 32-5-9	North Reference:	True
Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 3		
Design:	Plan #6		

Project	Rio Arriba County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	Carson 32-5-9, Site Center: Carson 32-5-9 1H		
Site Position:		Northing:	2,180,525.56 usft
From:	Lat/Long	Easting:	1,313,970.64 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	36.9871264
		Longitude:	-107.3677452
		Grid Convergence:	-0.67 °

Well	Carson 32-5-9 1, 124' FNL 2626' FEL Sec 16 T32N R5W		
Well Position	+N/-S	0.00 ft	Northing: 2,180,525.56 usft
	+E/-W	0.00 ft	Easting: 1,313,970.64 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	Latitude: 36.9871264
			Longitude: -107.3677452
			Ground Level: 7,230.00 ft

Wellbore	Lateral 3				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM_FILE	4/16/2020	8.82	63.45	49,789.20000000

Design	Plan #6			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	3,840.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	25.81

Plan Survey Tool Program	Date	12/17/2021		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(ft)	(ft)			
1 3,840.00	7,920.35	Plan #6 (Lateral 3)	MWD+HDGM	
			OWSG MWD + HDGM	

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100ft)	(°/100ft)	(°/100ft)		
3,840.00	40.00	0.00	3,475.81	886.04	327.80	0.00	0.00	0.00	0.00	
4,315.17	90.50	75.00	3,693.00	1,144.60	604.80	17.01	10.63	15.78	78.08	
4,615.17	90.50	75.00	3,690.38	1,222.24	894.56	0.00	0.00	0.00	0.00	
6,318.64	90.75	2.60	3,668.90	2,463.14	1,892.26	4.25	0.01	-4.25	-89.37	
7,920.35	90.75	2.60	3,648.00	4,063.07	1,964.86	0.00	0.00	0.00	0.00	Carson 32-5-9 1 Lat 3



Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference	Well Carson 32-5-9 1
Company:	Coleman Oil & Gas Inc.	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Project:	Rio Arriba County, NM	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site:	Carson 32-5-9	North Reference:	True
Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 3		
Design:	Plan #6		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
3,840.00	40.00	0.00	3,475.81	886.04	327.80	940.37	0.00	0.00	0.00	
3,900.01	43.08	14.70	3,520.83	925.25	333.01	977.94	17.00	5.13	24.50	
4,000.01	51.64	34.79	3,588.88	990.97	364.28	1,050.72	17.01	8.56	20.09	
4,100.01	62.84	50.08	3,643.13	1,052.17	421.19	1,130.59	17.01	11.20	15.29	
4,200.01	75.38	62.41	3,678.83	1,103.50	498.76	1,210.57	17.01	12.54	12.34	
4,300.01	88.49	73.38	3,692.87	1,140.47	590.21	1,283.67	17.01	13.11	10.96	
4,315.17	90.50	75.00	3,693.00	1,144.60	604.80	1,293.74	17.02	13.23	10.70	
4,400.01	90.50	75.00	3,692.26	1,166.56	686.74	1,349.18	0.00	0.00	0.00	
4,500.01	90.50	75.00	3,691.39	1,192.44	783.33	1,414.53	0.00	0.00	0.00	
4,600.01	90.50	75.00	3,690.51	1,218.32	879.92	1,479.88	0.00	0.00	0.00	
4,615.17	90.50	75.00	3,690.38	1,222.24	894.56	1,489.79	0.00	0.00	0.00	
4,700.01	90.54	71.39	3,689.61	1,246.76	975.76	1,547.21	4.25	0.05	-4.25	
4,800.01	90.58	67.14	3,688.64	1,282.15	1,069.26	1,619.78	4.25	0.04	-4.25	
4,900.01	90.62	62.89	3,687.59	1,324.37	1,159.88	1,697.24	4.25	0.04	-4.25	
5,000.01	90.66	58.64	3,686.47	1,373.19	1,247.12	1,779.17	4.25	0.04	-4.25	
5,100.01	90.69	54.39	3,685.30	1,428.34	1,330.50	1,865.12	4.25	0.03	-4.25	
5,200.01	90.72	50.14	3,684.07	1,489.52	1,409.57	1,954.61	4.25	0.03	-4.25	
5,300.01	90.74	45.89	3,682.80	1,556.38	1,483.88	2,047.16	4.25	0.02	-4.25	
5,400.01	90.76	41.64	3,681.49	1,628.58	1,553.04	2,142.26	4.25	0.02	-4.25	
5,500.01	90.78	37.39	3,680.14	1,705.69	1,616.65	2,239.38	4.25	0.02	-4.25	
5,600.01	90.79	33.14	3,678.78	1,787.31	1,674.37	2,337.99	4.25	0.01	-4.25	
5,700.01	90.80	28.89	3,677.39	1,872.99	1,725.88	2,437.55	4.25	0.01	-4.25	
5,800.01	90.80	24.64	3,675.99	1,962.24	1,770.90	2,537.50	4.25	0.00	-4.25	
5,900.01	90.80	20.39	3,674.60	2,054.59	1,809.19	2,637.30	4.25	0.00	-4.25	
6,000.01	90.79	16.14	3,673.21	2,149.52	1,840.52	2,736.40	4.25	-0.01	-4.25	
6,100.01	90.78	11.89	3,671.83	2,246.51	1,864.73	2,834.26	4.25	-0.01	-4.25	
6,200.01	90.77	7.64	3,670.47	2,345.03	1,881.68	2,930.34	4.25	-0.01	-4.25	
6,300.01	90.75	3.39	3,669.14	2,444.54	1,891.29	3,024.10	4.25	-0.02	-4.25	
6,318.64	90.75	2.60	3,668.90	2,463.14	1,892.26	3,041.27	4.25	-0.02	-4.25	
6,400.01	90.75	2.60	3,667.84	2,544.42	1,895.95	3,116.05	0.00	0.00	0.00	
6,500.01	90.75	2.60	3,666.53	2,644.31	1,900.49	3,207.95	0.00	0.00	0.00	
6,600.01	90.75	2.60	3,665.23	2,744.20	1,905.02	3,299.85	0.00	0.00	0.00	
6,700.01	90.75	2.60	3,663.92	2,844.09	1,909.55	3,391.75	0.00	0.00	0.00	
6,800.01	90.75	2.60	3,662.62	2,943.98	1,914.08	3,483.65	0.00	0.00	0.00	
6,900.01	90.75	2.60	3,661.31	3,043.86	1,918.61	3,575.54	0.00	0.00	0.00	
7,000.01	90.75	2.60	3,660.01	3,143.75	1,923.15	3,667.44	0.00	0.00	0.00	
7,100.01	90.75	2.60	3,658.70	3,243.64	1,927.68	3,759.34	0.00	0.00	0.00	
7,200.01	90.75	2.60	3,657.40	3,343.53	1,932.21	3,851.24	0.00	0.00	0.00	
7,300.01	90.75	2.60	3,656.09	3,443.42	1,936.74	3,943.14	0.00	0.00	0.00	
7,400.01	90.75	2.60	3,654.79	3,543.31	1,941.28	4,035.04	0.00	0.00	0.00	
7,500.02	90.75	2.60	3,653.48	3,643.20	1,945.81	4,126.94	0.00	0.00	0.00	
7,600.02	90.75	2.60	3,652.18	3,743.09	1,950.34	4,218.84	0.00	0.00	0.00	
7,700.02	90.75	2.60	3,650.87	3,842.98	1,954.87	4,310.74	0.00	0.00	0.00	
7,800.02	90.75	2.60	3,649.57	3,942.86	1,959.40	4,402.64	0.00	0.00	0.00	
7,900.02	90.75	2.60	3,648.27	4,042.75	1,963.94	4,494.53	0.00	0.00	0.00	
7,920.35	90.75	2.60	3,648.00	4,063.07	1,964.86	4,513.22	0.00	0.00	0.00	



Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference	Well Carson 32-5-9 1
Company:	Coleman Oil & Gas Inc.	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Project:	Rio Arriba County, NM	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site:	Carson 32-5-9	North Reference:	True
Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 3		
Design:	Plan #6		

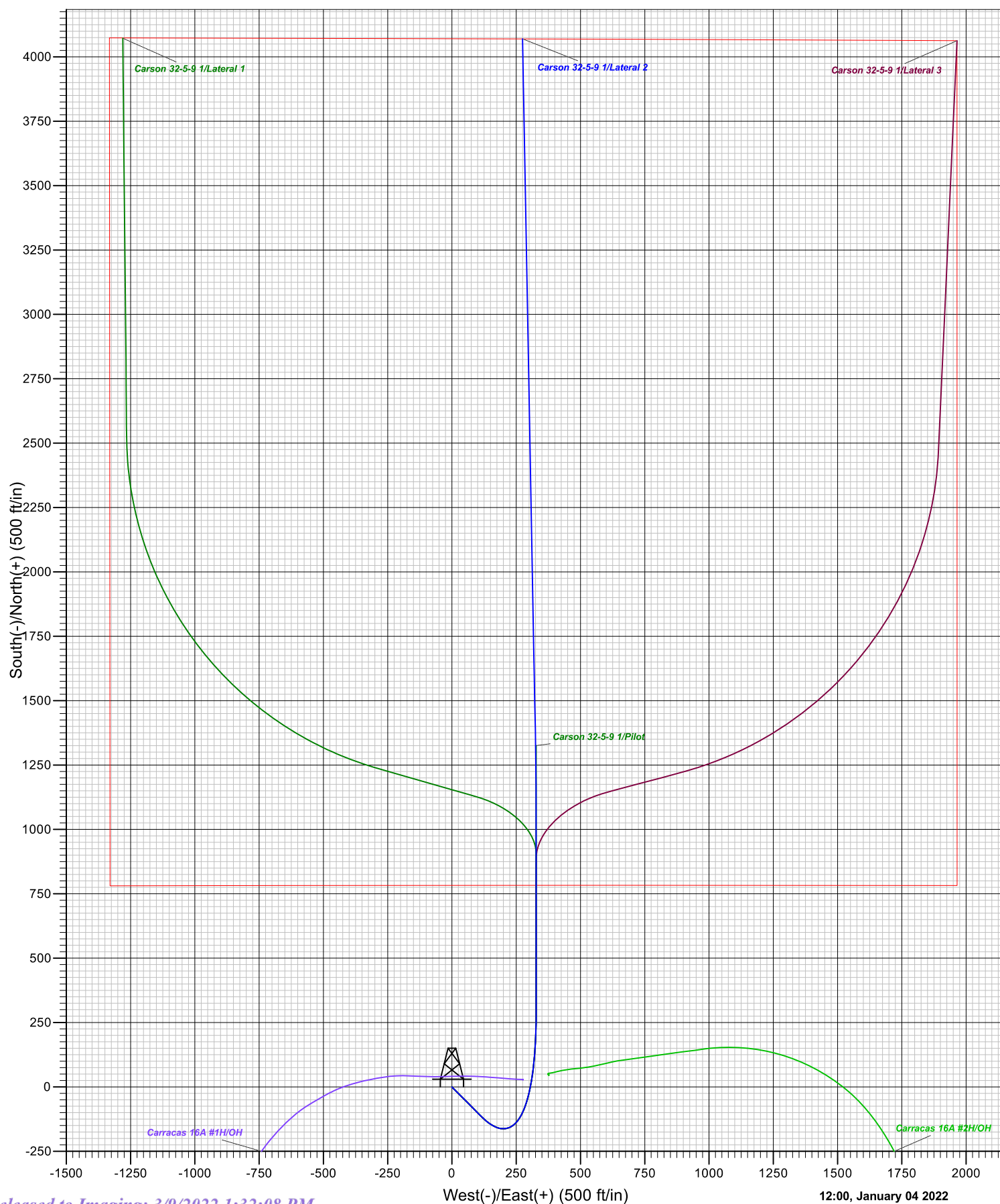
Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Carson 32-5-9 1 Lat 3 Pl	0.00	0.00	3,648.00	4,063.07	1,964.86	2,184,565.27	1,315,983.05	36.9982852	-107.3610173
- plan hits target center									
- Point									
Carson 32-5-9 1 Lat 3 LI	0.00	0.00	3,693.00	810.00	1,020.00	2,181,323.53	1,315,000.07	36.9893509	-107.3642531
- plan misses target center by 430.89ft at 4616.06ft MD (3690.37 TVD, 1222.47 N, 895.42 E)									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
0.00	0.00	San Jose		0.00		
1,917.64	1,878.00	Nacimiento		0.00		
3,320.70	3,078.01	Ojo Alamo		0.00		
3,512.59	3,225.01	Kirtland		0.00		
3,998.60	3,588.01	Fruitland		0.00		

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W		
(ft)	(ft)	(ft)	(ft)	Comment	
4,727.01	3,689.36	1,255.63	1,001.26	Landing Point	



Company: Coleman Oil & Gas Inc.
Project: Rio Arriba County, NM
Site: Carson 32-5-9





Coleman Oil & Gas Inc.

Rio Arriba County, NM

Carson 32-5-9

Carson 32-5-9 1

Pilot

Plan #4

Anticollision Report

17 December, 2021





Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Pilot	Database:	Grand Junction
Reference Design:	Plan #4	Offset TVD Reference:	Reference Datum

Reference	Plan #4
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method	MD Interval 100.00ft
Depth Range:	Unlimited
Results Limited by:	Maximum centre distance of 10,000.00ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	Systematic Ellipse
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program		Date	12/17/2021	
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	4,524.28	Plan #4 (Pilot)	MWD-SDI	

Summary						
Site Name	Reference Measure	Offset Measure	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation	Warning
Offset Well - Wellbore - Design						
Carson 32-5-9						
Carson 32-5-9 1 - Lateral 1 - Plan #5	4,200.00	4,115.72	150.02	148.48	97.449	CC, ES, SF
Carson 32-5-9 1 - Lateral 2 - Plan #5	4,200.00	4,112.90	155.87	154.21	94.393	CC, ES, SF
Carson 32-5-9 1 - Lateral 3 - Plan #6	4,200.00	4,115.76	156.15	153.16	52.062	CC, ES, SF
Sec 16 T32N R5W						
Carracas 16A #1H - OH - OH	2,390.50	2,312.68	47.26	32.62	3.229	CC, ES
Carracas 16A #1H - OH - OH	2,400.00	2,321.17	47.43	32.74	3.229	SF
Carracas 16A #2H - OH - OH	2,485.17	2,388.73	61.97	47.43	4.264	CC, ES, SF

Offset Design Carson 32-5-9 - Carson 32-5-9 1 - Lateral 1 - Plan #5													Offset Site Error:	0.00 ft
Survey Program:		0-MWD-SDI, 3870-MWD-SDI		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error:	0.00 ft	
Measured	Vertical	Measured	Vertical	Reference	Major Offset	Highside			Distance				Warning	
Depth	Depth	Depth	Depth			Toolface	+N/-S	+E/-W	Between	Between	Minimum	Separation		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	Centres	Ellipses	Separation	Factor		
3,900.00	3,521.78	3,899.89	3,521.44	0.09	0.09	-77.53	924.76	326.28	1.56	1.40	0.16	9.577		
4,000.00	3,598.38	3,992.11	3,586.02	0.39	0.38	-77.53	985.70	302.89	27.99	27.31	0.67	41.676		
4,100.00	3,674.99	4,064.07	3,627.72	0.69	0.65	-77.53	1,031.25	266.32	80.58	79.45	1.13	71.190		
4,200.00	3,751.59	4,115.72	3,651.31	0.99	0.87	-77.53	1,061.10	231.49	150.02	148.48	1.54	97.449	CC, ES, SF	
4,300.00	3,828.20	4,150.00	3,663.60	1.29	0.98	-77.53	1,079.05	205.02	229.58	227.63	1.95	117.746		
4,400.00	3,904.80	4,175.00	3,670.74	1.59	1.06	-77.53	1,091.03	184.28	315.27	312.93	2.34	134.635		
4,500.00	3,981.40	4,200.00	3,676.28	1.90	1.14	-77.53	1,101.97	162.51	404.74	402.01	2.73	148.279		
4,524.28	4,000.00	4,200.00	3,676.28	1.97	1.14	-77.53	1,101.97	162.51	426.91	424.10	2.81	152.014		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Pilot	Database:	Grand Junction
Reference Design:	Plan #4	Offset TVD Reference:	Reference Datum

Offset Design Carson 32-5-9 - Carson 32-5-9 1 - Lateral 2 - Plan #5														Offset Site Error:	0.00 ft
Survey Program: 0-MWD-SDI, 3855-MWD-SDI														Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
3,900.00	3,521.78	3,899.68	3,519.74	0.14	0.14	37.59	926.28	329.80	3.31	3.11	0.20	16.188			
4,000.00	3,598.38	3,990.29	3,572.47	0.44	0.41	37.59	997.78	345.87	32.82	32.28	0.55	60.129			
4,100.00	3,674.99	4,061.19	3,599.13	0.74	0.63	37.59	1,059.14	368.86	86.46	85.31	1.15	74.942			
4,200.00	3,751.59	4,112.90	3,609.52	1.04	0.79	37.59	1,104.79	390.65	155.87	154.21	1.65	94.393 CC, ES, SF			
4,300.00	3,828.20	4,153.29	3,612.14	1.34	0.91	37.59	1,140.05	410.13	234.94	232.83	2.10	111.623			
4,400.00	3,904.80	4,215.45	3,613.50	1.64	1.09	37.19	1,194.57	439.96	316.36	313.72	2.64	119.769			
4,500.00	3,981.40	4,280.12	3,614.92	1.94	1.29	36.39	1,252.43	468.77	396.90	393.72	3.18	124.658			
4,524.28	4,000.00	4,296.18	3,615.27	2.01	1.34	36.16	1,266.99	475.57	416.32	413.01	3.31	125.770			



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Pilot	Database:	Grand Junction
Reference Design:	Plan #4	Offset TVD Reference:	Reference Datum

Offset Design Carson 32-5-9 - Carson 32-5-9 1 - Lateral 3 - Plan #6												Offset Site Error:	0.00 ft
Survey Program: 0-MWD-SDI, 3840-MWD+HDGM												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Rule Assigned:		Distance		Minimum	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Separation (ft)	Factor	
3,900.00	3,521.78	3,899.38	3,520.37	0.18	0.71	78.08	924.83	332.90	5.30	4.28	1.02	5.180	
4,000.00	3,598.38	3,989.38	3,582.21	0.48	0.90	78.08	984.09	359.67	36.06	34.80	1.26	28.593	
4,100.00	3,674.99	4,061.43	3,624.17	0.78	0.63	78.08	1,029.45	396.47	88.66	87.00	1.66	53.337	
4,200.00	3,751.59	4,115.76	3,650.09	1.08	1.82	78.08	1,061.03	432.19	156.15	153.16	3.00	52.062 CC, ES, SF	
4,300.00	3,828.20	4,156.23	3,665.73	1.38	2.60	78.08	1,082.55	462.66	233.28	229.33	3.95	59.047	
4,400.00	3,904.80	4,186.73	3,675.29	1.68	3.18	78.08	1,097.42	487.50	316.63	311.95	4.68	67.678	
4,500.00	3,981.40	4,210.19	3,681.29	1.99	3.63	78.08	1,107.98	507.56	404.12	398.86	5.26	76.845	
4,524.28	4,000.00	4,215.07	3,682.38	2.06	3.73	78.08	1,110.08	511.83	425.82	420.43	5.38	79.096	



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Pilot	Database:	Grand Junction
Reference Design:	Plan #4	Offset TVD Reference:	Reference Datum

Offset Design Sec 16 T32N R5W - Carracas 16A #1H - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 318-MWD+HDCM													Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Reference Depth (ft)	Measured Depth (ft)	Vertical Offset Depth (ft)	Semi Reference (ft)	Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.00	0.00	0.00	8.99	0.00	0.00	84.45	26.80	276.09	277.53					
100.00	100.00	90.75	99.73	0.26	0.16	84.43	26.92	276.12	277.43	277.02	0.41	675.061		
200.00	200.00	190.45	199.44	0.56	0.33	84.35	27.31	276.23	277.58	276.69	0.88	314.600		
300.00	300.00	290.15	299.14	0.86	0.50	84.22	27.98	276.42	277.83	276.48	1.35	205.247		
400.00	399.95	390.73	399.71	1.16	0.81	-51.36	28.60	276.56	276.39	274.43	1.96	140.979		
500.00	499.63	490.79	499.77	1.46	1.15	-52.76	28.57	276.66	271.66	269.05	2.60	104.311		
600.00	598.77	589.82	598.80	1.76	1.49	-55.20	28.60	276.62	263.89	260.64	3.25	81.239		
700.00	697.08	688.36	697.34	2.06	1.84	-58.82	28.68	276.65	253.90	250.00	3.89	65.186		
800.00	794.31	785.56	794.54	2.36	2.18	-63.78	28.76	276.52	242.33	237.79	4.54	53.433		
900.00	890.18	881.15	890.13	2.66	2.52	-70.23	28.87	276.43	230.78	225.61	5.17	44.613		
1,000.00	985.28	975.99	984.97	2.96	2.85	-77.41	29.00	276.46	221.85	216.04	5.81	38.189		
1,100.00	1,080.39	1,071.28	1,080.26	3.26	3.19	-85.04	29.10	276.55	217.03	210.58	6.44	33.674		
1,200.00	1,175.85	1,167.06	1,176.04	3.56	3.52	-88.23	29.09	276.48	215.48	208.40	7.08	30.441		
1,300.00	1,272.42	1,263.36	1,272.34	3.86	3.86	-87.37	29.08	276.46	214.55	206.84	7.72	27.807		
1,400.00	1,369.86	1,360.96	1,369.94	4.16	4.20	-83.05	29.06	276.56	212.81	204.46	8.35	25.471		
1,500.00	1,467.91	1,459.06	1,468.04	4.46	4.54	-74.84	28.99	276.48	209.02	200.03	8.99	23.242		
1,600.00	1,566.30	1,557.44	1,566.42	4.76	4.88	-63.28	29.03	276.33	202.61	192.98	9.64	21.028		
1,700.00	1,664.76	1,656.22	1,665.20	5.06	5.22	-50.58	28.96	276.08	192.84	182.56	10.28	18.763		
1,800.00	1,763.02	1,754.11	1,763.09	5.36	5.56	-39.46	28.77	275.99	179.35	168.44	10.92	16.429		
1,900.00	1,860.82	1,851.48	1,860.46	5.66	5.91	-31.48	28.90	276.01	162.31	150.75	11.56	14.042		
2,000.00	1,957.88	1,948.63	1,957.61	5.96	6.25	-26.79	29.11	276.16	141.32	129.12	12.20	11.582		
2,100.00	2,053.93	2,044.95	2,053.93	6.26	6.59	-25.45	29.22	276.18	116.25	103.40	12.84	9.052		
2,200.00	2,148.73	2,139.34	2,148.30	6.56	6.92	-29.23	29.10	274.93	87.58	74.11	13.47	6.501		
2,300.00	2,241.99	2,230.87	2,239.68	6.86	7.24	-45.81	29.14	269.58	59.94	45.85	14.09	4.255		
2,390.50	2,324.88	2,312.68	2,321.26	7.13	7.53	-79.50	29.34	263.43	47.26	32.62	14.63	3.229 CC, ES		
2,400.00	2,333.48	2,321.17	2,329.71	7.16	7.56	-83.77	29.36	262.74	47.43	32.74	14.69	3.229 SF		
2,500.00	2,422.94	2,408.55	2,416.74	7.46	7.87	-119.77	29.61	254.86	68.49	53.18	15.30	4.476		
2,600.00	2,510.12	2,491.23	2,498.68	7.76	8.17	-134.74	30.41	243.94	111.11	95.22	15.89	6.991		
2,700.00	2,594.78	2,571.62	2,577.72	8.06	8.46	-140.21	31.58	229.36	163.23	146.74	16.49	9.900		
2,800.00	2,676.69	2,646.51	2,650.73	8.37	8.75	-141.92	32.89	212.76	221.10	204.04	17.06	12.959		
2,900.00	2,755.64	2,715.79	2,717.22	8.67	9.02	-141.62	34.18	193.38	284.45	266.83	17.62	16.145		
3,000.00	2,832.34	2,783.23	2,780.74	8.97	9.31	-142.49	35.85	170.82	351.50	333.32	18.19	19.328		
3,100.00	2,908.94	2,845.27	2,837.63	9.27	9.59	-142.83	37.92	146.20	420.46	401.72	18.74	22.440		
3,200.00	2,985.55	2,904.01	2,889.87	9.57	9.90	-142.50	39.94	119.43	491.48	472.19	19.29	25.477		
3,300.00	3,062.15	2,956.06	2,935.21	9.87	10.19	-142.04	41.06	93.90	564.54	544.72	19.82	28.482		
3,400.00	3,138.76	3,008.36	2,979.87	10.17	10.52	-141.47	41.86	66.71	639.16	618.78	20.38	31.365		
3,500.00	3,215.36	3,047.45	3,012.34	10.47	10.79	-140.95	41.98	44.94	715.88	695.03	20.85	34.338		
3,600.00	3,291.96	3,085.05	3,042.44	10.78	11.08	-140.33	41.71	22.41	794.80	773.48	21.33	37.267		
3,700.00	3,368.57	3,127.01	3,074.66	11.08	11.44	-139.52	41.20	-4.44	875.53	853.66	21.88	40.024		
3,800.00	3,445.17	3,159.01	3,098.53	11.38	11.73	-138.89	40.64	-25.75	957.62	935.27	22.35	42.850		
3,900.00	3,521.78	3,206.62	3,133.09	11.68	12.22	-137.92	39.95	-58.49	1,040.63	1,017.61	23.02	45.205		
4,000.00	3,598.38	3,258.71	3,169.16	11.98	12.82	-136.75	40.48	-96.05	1,123.99	1,100.20	23.79	47.256		
4,100.00	3,674.99	3,298.18	3,195.35	12.28	13.31	-135.83	41.58	-125.55	1,207.84	1,183.39	24.44	49.418		
4,200.00	3,751.59	3,330.22	3,215.94	12.58	13.75	-135.07	42.56	-150.09	1,292.55	1,267.52	25.03	51.646		
4,300.00	3,828.20	3,350.01	3,228.36	12.88	14.02	-134.61	43.07	-165.48	1,378.28	1,352.81	25.46	54.126		
4,400.00	3,904.80	3,382.01	3,247.94	13.18	14.49	-133.89	43.55	-190.79	1,465.02	1,438.94	26.08	56.167		
4,500.00	3,981.40	3,395.30	3,255.95	13.48	14.70	-133.61	43.51	-201.40	1,552.75	1,526.30	26.45	58.700		
4,524.28	4,000.00	3,399.47	3,258.47	13.56	14.76	-133.52	43.45	-204.73	1,574.20	1,547.64	26.56	59.279		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Pilot	Database:	Grand Junction
Reference Design:	Plan #4	Offset TVD Reference:	Reference Datum

Offset Design Sec 16 T32N R5W - Carracas 16A #2H - OH - OH												Offset Site Error:	0.00 ft
Survey Program: 288-MWD-SDI												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Reference Depth (ft)	Measured Depth (ft)	Vertical Offset Depth (ft)	Semi Major Axis Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	17.99	0.00	0.00	82.07	52.29	375.39	379.44				
100.00	100.00	81.69	99.68	0.26	0.23	82.11	52.03	375.46	379.05	378.56	0.49	777.828	
200.00	200.00	181.29	199.27	0.56	0.52	82.27	51.02	375.74	379.19	378.12	1.07	354.198	
300.00	300.00	280.87	298.83	0.86	0.80	82.54	49.25	376.23	379.44	377.78	1.65	229.444	
400.00	399.95	381.55	399.50	1.16	1.10	-52.57	47.73	376.65	378.07	375.81	2.25	167.680	
500.00	499.63	481.48	499.42	1.46	1.40	-53.61	47.53	376.73	373.39	370.53	2.85	130.804	
600.00	598.77	580.58	598.53	1.76	1.70	-55.41	47.45	376.83	365.86	362.40	3.45	105.981	
700.00	697.08	679.47	697.42	2.06	1.99	-58.06	47.33	376.85	355.74	351.69	4.05	87.857	
800.00	794.31	775.89	793.84	2.36	2.28	-61.57	47.27	376.82	343.70	339.06	4.64	74.098	
900.00	890.18	872.59	890.54	2.66	2.57	-66.13	47.24	376.92	330.85	325.62	5.23	63.274	
1,000.00	985.28	967.78	985.73	2.96	2.86	-71.02	47.29	376.74	318.89	313.07	5.81	54.848	
1,100.00	1,080.39	1,062.86	1,080.81	3.26	3.14	-76.16	47.10	376.70	309.60	303.20	6.40	48.383	
1,200.00	1,175.85	1,158.73	1,176.67	3.56	3.43	-76.85	46.82	376.66	302.48	295.50	6.99	43.296	
1,300.00	1,272.42	1,254.49	1,272.43	3.86	3.72	-73.77	46.63	376.62	295.65	288.07	7.57	39.036	
1,400.00	1,369.86	1,351.99	1,369.93	4.16	4.01	-67.51	46.53	376.76	288.21	280.04	8.17	35.293	
1,500.00	1,467.91	1,450.03	1,467.97	4.46	4.31	-57.42	46.35	376.88	279.08	270.32	8.76	31.857	
1,600.00	1,566.30	1,548.31	1,566.25	4.76	4.60	-43.93	46.32	376.92	267.75	258.39	9.36	28.621	
1,700.00	1,664.76	1,647.38	1,665.33	5.06	4.90	-29.04	46.17	376.99	253.58	243.63	9.95	25.480	
1,800.00	1,763.02	1,744.92	1,762.87	5.36	5.19	-15.31	46.02	376.97	236.24	225.69	10.55	22.403	
1,900.00	1,860.82	1,842.61	1,860.55	5.66	5.48	-3.93	46.13	377.03	215.79	204.66	11.14	19.374	
2,000.00	1,957.88	1,940.17	1,958.12	5.96	5.78	5.53	46.16	377.01	191.79	180.06	11.73	16.348	
2,100.00	2,053.93	2,036.67	2,054.62	6.26	6.07	14.22	46.02	376.75	164.16	151.84	12.32	13.322	
2,200.00	2,148.73	2,131.03	2,148.98	6.56	6.35	23.79	45.89	376.42	133.62	120.71	12.91	10.353	
2,300.00	2,241.99	2,224.28	2,242.20	6.86	6.63	36.02	47.15	374.82	101.64	88.16	13.49	7.536	
2,400.00	2,333.48	2,313.42	2,331.25	7.16	6.90	55.03	50.69	373.50	73.09	59.03	14.05	5.201	
2,485.17	2,409.81	2,388.73	2,406.47	7.42	7.12	83.29	52.88	376.07	61.97	47.43	14.53	4.264 CC, ES, SF	
2,500.00	2,422.94	2,401.51	2,419.23	7.46	7.16	88.87	53.07	376.81	62.38	47.77	14.61	4.269	
2,600.00	2,510.12	2,486.02	2,503.39	7.76	7.41	120.07	54.05	384.28	85.36	70.19	15.17	5.628	
2,700.00	2,594.78	2,570.62	2,587.01	8.06	7.67	135.86	56.64	396.82	129.24	113.52	15.72	8.219	
2,800.00	2,676.69	2,650.70	2,665.54	8.37	7.91	143.19	60.36	411.98	181.84	165.58	16.27	11.179	
2,900.00	2,755.64	2,725.59	2,737.90	8.67	8.13	146.37	64.37	430.81	241.39	224.60	16.79	14.373	
3,000.00	2,832.34	2,793.55	2,802.49	8.97	8.34	147.45	67.73	451.67	306.14	288.84	17.30	17.694	
3,100.00	2,908.94	2,854.75	2,859.26	9.27	8.52	147.32	70.49	474.31	373.44	355.65	17.79	20.993	
3,200.00	2,985.55	2,916.85	2,914.87	9.57	8.71	146.41	73.38	501.76	443.03	424.76	18.28	24.240	
3,300.00	3,062.15	2,992.69	2,979.78	9.87	8.93	144.61	78.85	540.53	513.53	494.73	18.80	27.309	
3,400.00	3,138.76	3,061.26	3,035.17	10.17	9.14	142.49	87.29	580.02	583.54	564.23	19.31	30.217	
3,500.00	3,215.36	3,114.38	3,075.69	10.47	9.30	140.68	94.98	613.50	654.91	635.14	19.77	33.122	
3,600.00	3,291.96	3,160.01	3,109.17	10.78	9.44	139.16	101.04	643.88	728.79	708.58	20.21	36.060	
3,700.00	3,368.57	3,192.01	3,132.06	11.08	9.53	138.16	104.50	665.97	805.32	784.71	20.61	39.079	
3,800.00	3,445.17	3,242.08	3,167.37	11.38	9.69	136.74	109.28	701.15	883.54	862.48	21.06	41.957	
3,900.00	3,521.78	3,288.01	3,198.56	11.68	9.82	135.46	113.83	734.55	962.95	941.45	21.50	44.796	
4,000.00	3,598.38	3,320.01	3,218.90	11.98	9.92	134.50	117.29	759.00	1,043.85	1,021.95	21.89	47.681	
4,100.00	3,674.99	3,352.01	3,238.32	12.28	10.02	133.53	120.82	784.19	1,126.16	1,103.87	22.29	50.526	
4,200.00	3,751.59	3,384.01	3,257.08	12.58	10.11	132.57	124.45	809.86	1,209.53	1,186.84	22.68	53.319	
4,300.00	3,828.20	3,415.01	3,274.54	12.88	10.21	131.65	127.95	835.23	1,294.01	1,270.93	23.08	56.073	
4,400.00	3,904.80	3,447.01	3,291.79	13.18	10.30	130.71	131.59	861.93	1,379.49	1,356.01	23.47	58.769	
4,500.00	3,981.40	3,479.01	3,308.28	13.48	10.40	129.79	135.18	889.12	1,465.96	1,442.09	23.87	61.418	
4,524.28	4,000.00	3,479.01	3,308.28	13.56	10.40	129.79	135.18	889.12	1,487.06	1,463.11	23.94	62.112	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Pilot	Database:	Grand Junction
Reference Design:	Plan #4	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GL 7230' & RKB 15' @ 7245.00ft

Offset Depths are relative to Offset Datum

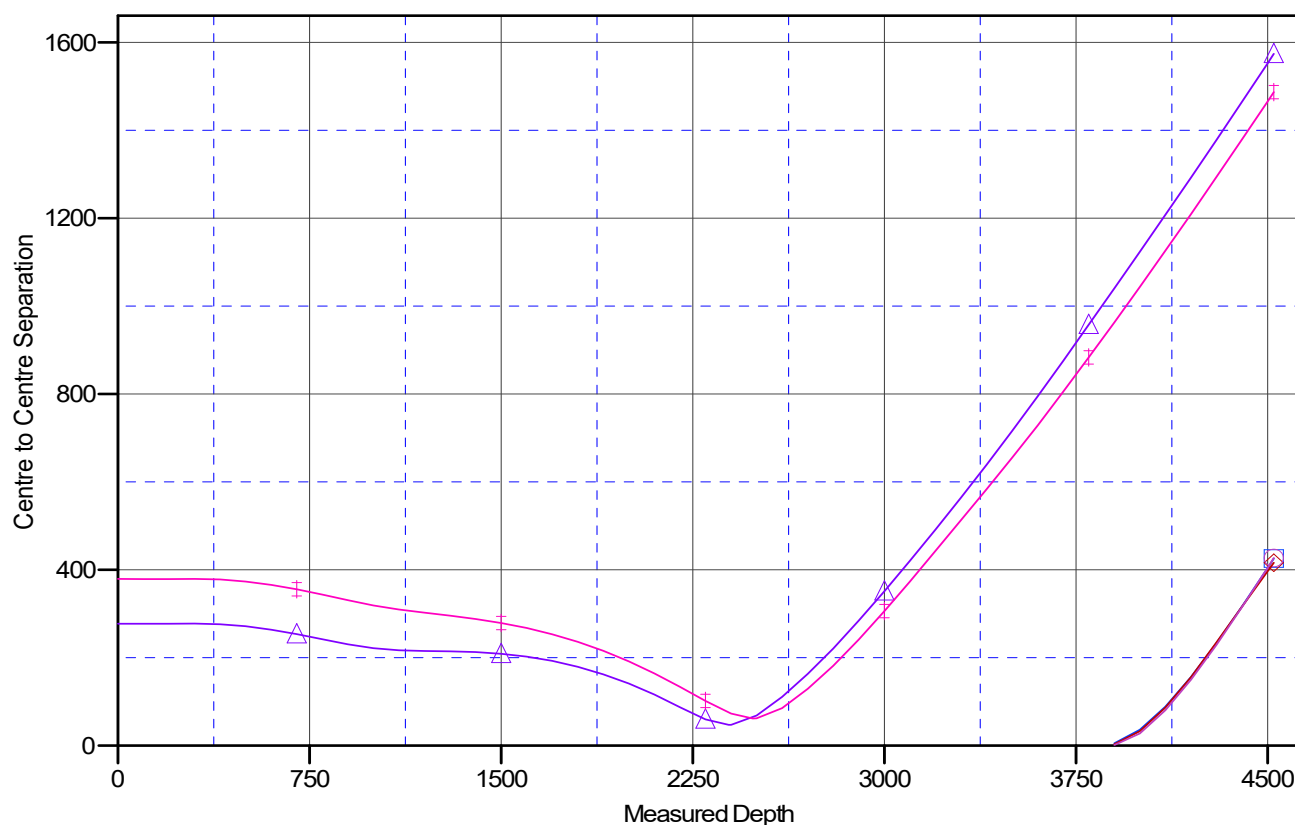
Central Meridian is -106.2500000

Coordinates are relative to: Carson 32-5-9 1

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

Grid Convergence at Surface is: -0.67°

Ladder Plot



LEGEND



Carson 32-5-9 1, Lab ref 1, Plan #5 V0



Carson 32-5-9 1, Lab ref 2, Plan #5 V0



Carson 32-5-9 1, Lab ref 1, Plan #5 V0



Lonestar Consulting, LLC

Anticollision Report



Company:	Coleman Oil & Gas Inc.	Local Co-ordinate Reference	Well Carson 32-5-9 1
Project:	Rio Arriba County, NM	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Reference Site:	Carson 32-5-9	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Pilot	Database:	Grand Junction
Reference Design:	Plan #4	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GL 7230' & RKB 15' @ 7245.00ft

Offset Depths are relative to Offset Datum

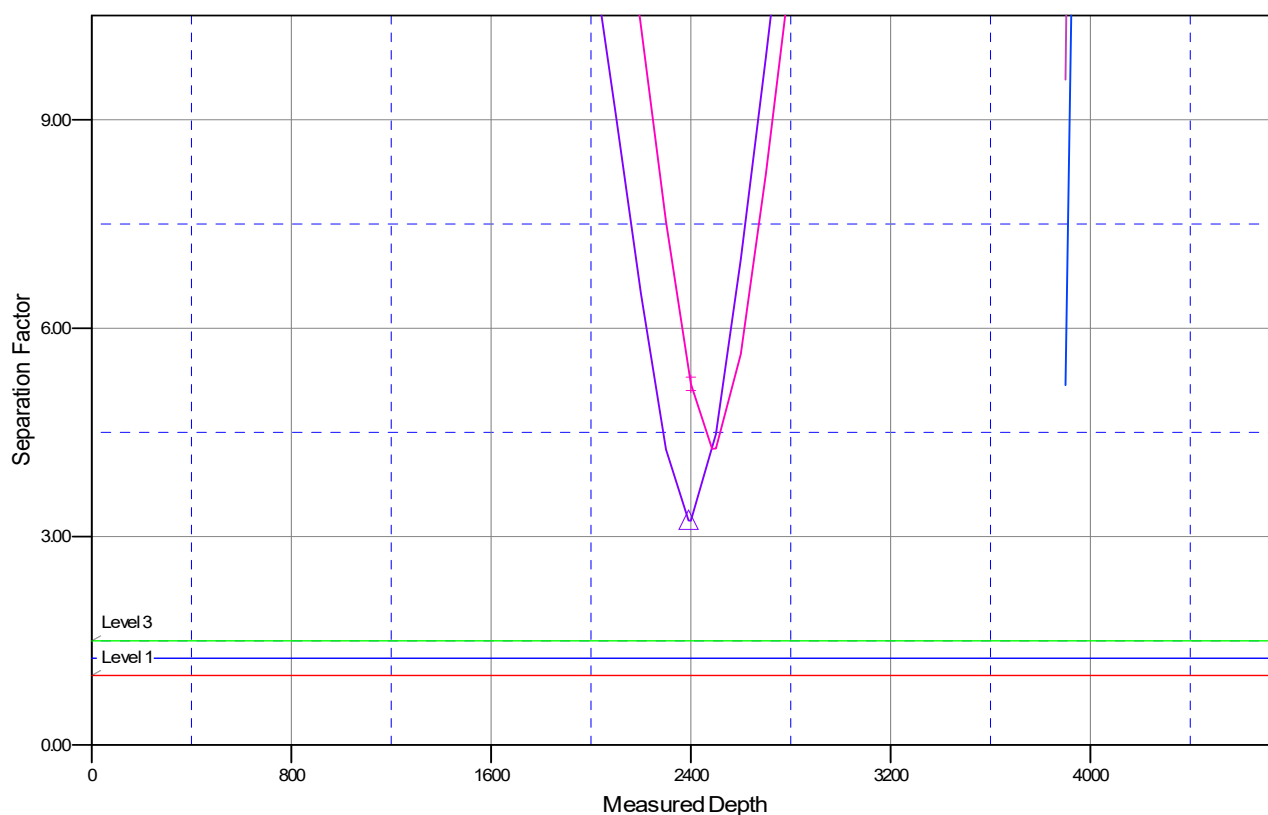
Central Meridian is -106.2500000

Coordinates are relative to: Carson 32-5-9 1

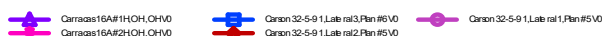
Coordinate System is US State Plane 1983, New Mexico Central Zone

Grid Convergence at Surface is: -0.67°

Separation Factor Plot



LEGEND





Company: Coleman Oil & Gas Inc.
 Project: Rio Arriba County, NM
 Site: Carson 32-5-9
 Well: Carson 32-5-9 1
 Wellbore: Pilot
 Design: Plan #4

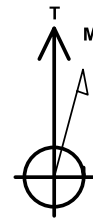


Well Details: Carson 32-5-9 1

+N/-S +E/-W Northing
 0.00 0.00 2180525.56

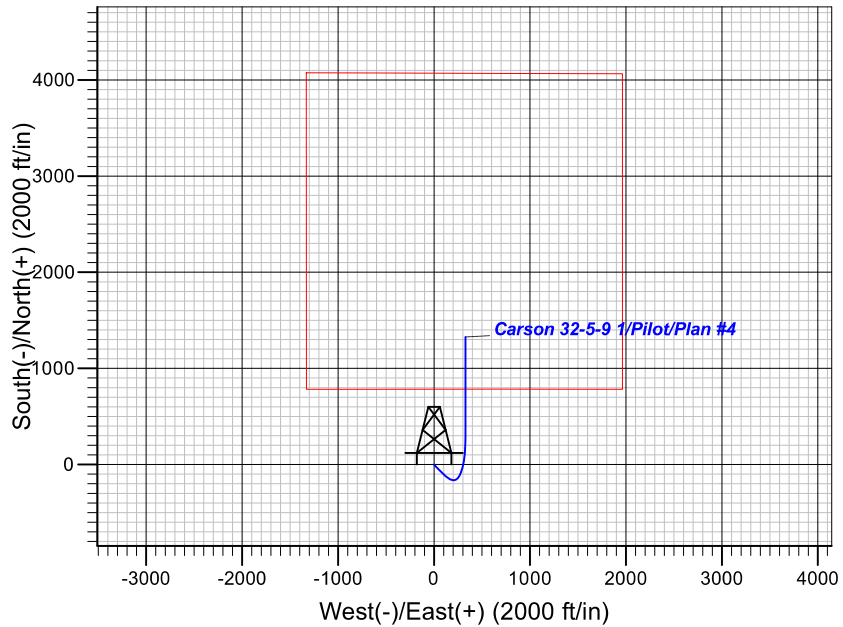
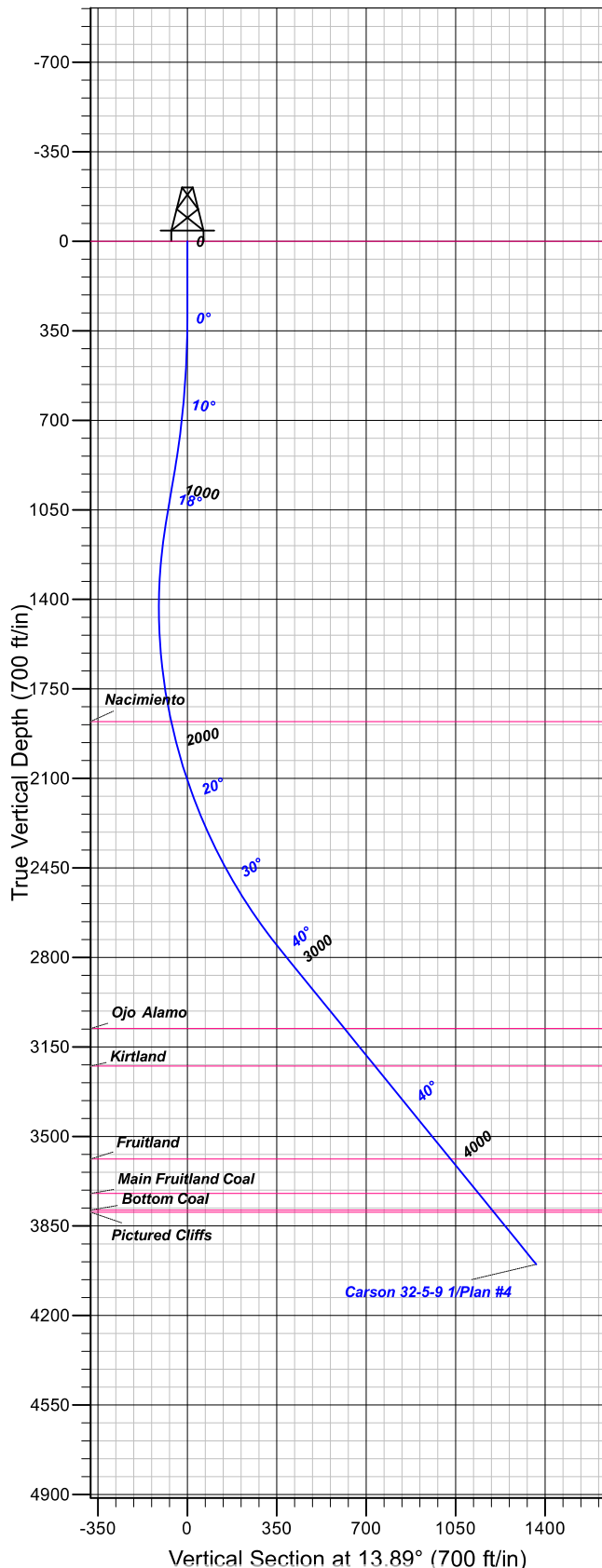
GL 7230' & RKB 15' @ 7245.00ft

Easting Longitude Slot
 1313970.64 36.9871264 -107.3677452



Azimuths to True North
 Magnetic North: 8.82°

Magnetic Field
 Strength: 49789.2nT
 Dip Angle: 63.45°
 Date: 4/16/2020
 Model: HDGM_FILE



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
0.00	0.00	San Jose
1878.00	1917.64	Nacimiento
3078.00	3320.69	Ojo Alamo
3225.00	3512.58	Kirtland
3588.01	3986.46	Fruitland
3723.01	4162.69	Main Fruitland Coal
3788.01	4247.54	Bottom Coal
3796.01	4257.98	Pictured Cliffs

Plan: Plan #4

14:47, December 17 2021
 Created By: Janie Collins

PROJECT DETAILS: Rio Arriba County, NM

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

System Datum: Mean Sea Level

CASING DETAILS

No casing data is available

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
900.00	18.00	135.00	890.18	-66.10	66.10	3.00	135.00	-48.30	
1125.00	18.00	135.00	1104.17	-115.26	115.26	0.00	0.00	-84.23	
2924.27	40.00	0.00	2774.32	297.42	327.80	3.00	-145.81	367.40	
4524.28	40.00	0.00	4000.00	1325.88	327.80	0.00	0.00	1365.80	

DESIGN TARGET DETAILS

No target data is available.



Coleman Oil & Gas Inc.

Rio Arriba County, NM

Carson 32-5-9

Carson 32-5-9 1

Pilot

Plan: Plan #4

Standard Planning Report

17 December, 2021





Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference	Well Carson 32-5-9 1
Company:	Coleman Oil & Gas Inc.	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Project:	Rio Arriba County, NM	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site:	Carson 32-5-9	North Reference:	True
Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Pilot		
Design:	Plan #4		

Project	Rio Arriba County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	Carson 32-5-9, Site Center: Carson 32-5-9 1H		
Site Position:		Northing:	2,180,525.56 usft
From:	Lat/Long	Easting:	1,313,970.64 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	36.9871264
		Longitude:	-107.3677452
		Grid Convergence:	-0.67 °

Well	Carson 32-5-9 1, 124' FNL 2626' FEL Sec 16 T32N R5W		
Well Position	+N/-S	0.00 ft	Northing: 2,180,525.56 usft
	+E/-W	0.00 ft	Easting: 1,313,970.64 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	Latitude: 36.9871264
			Longitude: -107.3677452
			Ground Level: 7,230.00 ft

Wellbore	Pilot				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM_FILE	4/16/2020	8.82	63.45	49,789.20000000

Design	Plan #4			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	13.89

Plan Survey Tool Program	Date	12/17/2021		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(ft)	(ft)			
1	0.00	4,524.28 Plan #4 (Pilot)	MWD-SDI	

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100ft)	(°/100ft)	(°/100ft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	18.00	135.00	890.18	-66.10	66.10	3.00	3.00	0.00	135.00	
1,125.00	18.00	135.00	1,104.17	-115.26	115.26	0.00	0.00	0.00	0.00	
2,924.27	40.00	0.00	2,774.32	297.42	327.80	3.00	1.22	-7.50	-145.81	
4,524.28	40.00	0.00	4,000.00	1,325.88	327.80	0.00	0.00	0.00	0.00	



Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference	Well Carson 32-5-9 1
Company:	Coleman Oil & Gas Inc.	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Project:	Rio Arriba County, NM	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site:	Carson 32-5-9	North Reference:	True
Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Pilot		
Design:	Plan #4		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	3.00	135.00	399.96	-1.85	1.85	-1.35	3.00	3.00	0.00
500.00	6.00	135.00	499.64	-7.40	7.40	-5.41	3.00	3.00	0.00
600.00	9.00	135.00	598.77	-16.63	16.63	-12.15	3.00	3.00	0.00
700.00	12.00	135.00	697.08	-29.51	29.51	-21.57	3.00	3.00	0.00
800.00	15.00	135.00	794.31	-46.02	46.02	-33.63	3.00	3.00	0.00
900.00	18.00	135.00	890.18	-66.10	66.10	-48.30	3.00	3.00	0.00
1,000.00	18.00	135.00	985.29	-87.95	87.95	-64.27	0.00	0.00	0.00
1,100.00	18.00	135.00	1,080.39	-109.80	109.80	-80.24	0.00	0.00	0.00
1,125.00	18.00	135.00	1,104.17	-115.26	115.26	-84.23	0.00	0.00	0.00
1,200.00	16.19	130.46	1,175.86	-130.24	131.41	-94.90	3.00	-2.42	-6.05
1,300.00	13.96	122.70	1,272.42	-145.81	152.17	-105.02	3.00	-2.22	-7.77
1,400.00	12.07	112.32	1,369.86	-156.30	172.00	-110.45	3.00	-1.89	-10.38
1,500.00	10.69	98.77	1,467.91	-161.68	190.85	-111.15	3.00	-1.38	-13.55
1,600.00	10.03	82.43	1,566.30	-161.95	208.65	-107.14	3.00	-0.66	-16.34
1,700.00	10.24	65.36	1,664.76	-157.09	225.37	-98.41	3.00	0.21	-17.07
1,800.00	11.26	50.18	1,763.02	-147.13	240.95	-85.00	3.00	1.02	-15.18
1,900.00	12.91	38.16	1,860.82	-132.09	255.35	-66.94	3.00	1.65	-12.02
2,000.00	14.98	29.10	1,957.88	-112.01	268.54	-44.29	3.00	2.07	-9.06
2,100.00	17.31	22.32	2,053.94	-86.95	280.48	-17.09	3.00	2.34	-6.79
2,200.00	19.83	17.15	2,148.73	-56.97	291.14	14.57	3.00	2.51	-5.17
2,300.00	22.45	13.13	2,242.00	-22.16	300.48	50.60	3.00	2.63	-4.02
2,400.00	25.16	9.92	2,333.49	17.38	308.48	90.91	3.00	2.71	-3.21
2,500.01	27.92	7.30	2,422.94	61.56	315.12	135.39	3.00	2.76	-2.62
2,600.01	30.73	5.13	2,510.12	110.24	320.38	183.91	3.00	2.80	-2.18
2,700.01	33.56	3.28	2,594.78	163.30	324.24	236.34	3.00	2.84	-1.84
2,800.01	36.42	1.70	2,676.70	220.58	326.70	292.54	3.00	2.86	-1.59
2,900.01	39.30	0.31	2,755.64	281.94	327.75	352.36	3.00	2.88	-1.38
2,924.27	40.00	0.00	2,774.32	297.42	327.80	367.40	3.00	2.89	-1.28
3,000.01	40.00	0.00	2,832.34	346.10	327.80	414.66	0.00	0.00	0.00
3,100.01	40.00	0.00	2,908.95	410.38	327.80	477.06	0.00	0.00	0.00
3,200.01	40.00	0.00	2,985.55	474.66	327.80	539.46	0.00	0.00	0.00
3,300.01	40.00	0.00	3,062.16	538.94	327.80	601.86	0.00	0.00	0.00
3,400.01	40.00	0.00	3,138.76	603.22	327.80	664.26	0.00	0.00	0.00
3,500.01	40.00	0.00	3,215.36	667.50	327.80	726.66	0.00	0.00	0.00
3,600.01	40.00	0.00	3,291.97	731.77	327.80	789.06	0.00	0.00	0.00
3,700.01	40.00	0.00	3,368.57	796.05	327.80	851.46	0.00	0.00	0.00
3,800.01	40.00	0.00	3,445.18	860.33	327.80	913.86	0.00	0.00	0.00
3,900.01	40.00	0.00	3,521.78	924.61	327.80	976.26	0.00	0.00	0.00
4,000.01	40.00	0.00	3,598.39	988.89	327.80	1,038.66	0.00	0.00	0.00
4,100.01	40.00	0.00	3,674.99	1,053.17	327.80	1,101.06	0.00	0.00	0.00
4,200.01	40.00	0.00	3,751.60	1,117.45	327.80	1,163.46	0.00	0.00	0.00
4,300.01	40.00	0.00	3,828.20	1,181.73	327.80	1,225.86	0.00	0.00	0.00
4,400.01	40.00	0.00	3,904.81	1,246.01	327.80	1,288.26	0.00	0.00	0.00
4,500.01	40.00	0.00	3,981.41	1,310.28	327.80	1,350.66	0.00	0.00	0.00
4,524.28	40.00	0.00	4,000.00	1,325.88	327.80	1,365.80	0.00	0.00	0.00



Lonestar Consulting, LLC
Planning Report



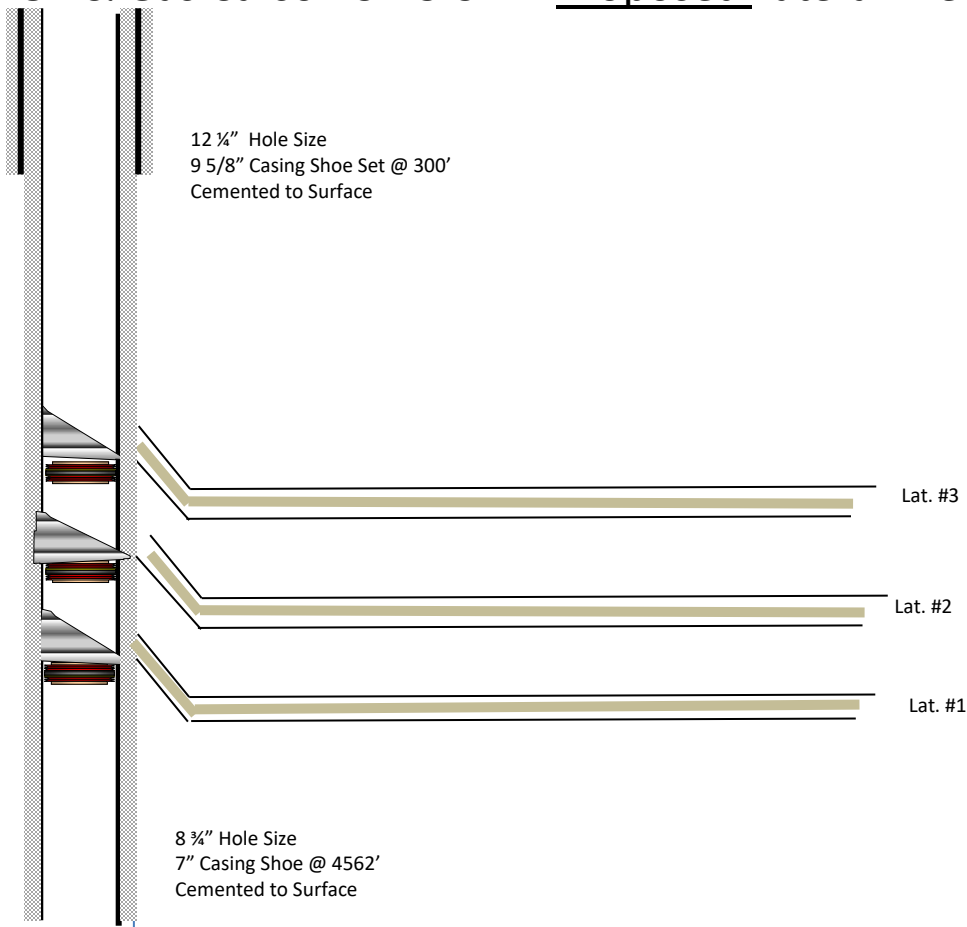
Database:	Grand Junction	Local Co-ordinate Reference	Well Carson 32-5-9 1
Company:	Coleman Oil & Gas Inc.	TVD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Project:	Rio Arriba County, NM	MD Reference:	GL 7230' & RKB 15' @ 7245.00ft
Site:	Carson 32-5-9	North Reference:	True
Well:	Carson 32-5-9 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Pilot		
Design:	Plan #4		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
0.00	0.00	San Jose		0.00	
1,917.64	1,878.00	Nacimiento		0.00	
3,320.69	3,078.00	Ojo Alamo		0.00	
3,512.58	3,225.00	Kirtland		0.00	
3,986.46	3,588.01	Fruitland		0.00	
4,162.69	3,723.01	Main Fruitland Coal		0.00	
4,247.54	3,788.01	Bottom Coal		0.00	
4,257.98	3,796.01	Pictured Cliffs		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.00	300.00	0.00	0.00	Start Build 3.00
900.00	890.18	-66.10	66.10	Start 500.00 hold at 900.00 MD
1,400.00	1,369.86	-156.30	172.00	Start DLS 3.00 TFO -168.63
3,318.06	3,075.98	550.54	327.80	Start 1088.17 hold at 3318.05 MD
3,986.46	3,588.01	980.18	327.80	Top Fruitland
4,406.23	3,909.57	1,250.00	327.80	TD at 4406.22

South

North



Lateral Name	Planned Drill Order	Top of Window (MD)	Base of Window (MD)	Bridge Plug (MD)	KOP (MD)	KOP (TVD)	KOP METHOD	TD (MD)	TD (TVD)	Top Liner (MD)	End Liner (MD)	Target Zone Name	Proposed API Ext.	BLM Doc #	Top of Production 28 T32N R05W	Sec - NMPM	BHL T31N R12W	Sec - 30 NMPM	Notes
Pilot	1							4406.0	3909.6			Basin Fruitland Coal	0000	?	973.60' FSL & 2310.28' FEL		1206.29' FSL & 2312.87' FEL		Cased Hole Logs
Lateral #1	2	3870	3878	3881	3870	3499	Whipstock	7952.3	3674.0	3875.0	7947.3	Basin Fruitland Coal	0001	?	1003.86' FSL & 2542.47' FEL		660' FNL & 1332' FWL		
Lateral #2	3	3855	3863	3866	3855	3487	Whipstock	7067.8	3673.0	3860.0	7062.8	Basin Fruitland Coal	0002	?	1036.37' FSL & 2310.98' FEL		660' FNL & 2350' FEL		
Lateral #3	4	3840	3848	3851	3840	3476	Whipstock	7920.4	3648.0	3845.0	7915.4	Basin Fruitland Coal	0003	?	1028.48' FSL & 2033.87' FEL		660' FNL & 660' FEL		

Depths are approximate and will shift based on tops after the pilot is logged and will need to be adjusted for casing collars. Actual depths will be adjusted depending on as drilled pilot hole.

Application for Permit to Drill Revised Drilling Plan

COLEMAN OIL & GAS

Carson 32-5-9 1H

Vertical Slant Pilot Hole
Surface Hole Location: 124' FNL & 2626' FEL
Section 16, T32N, R5W
Proposed GL Elevation = 7230'
Lat. = 36.9871264° N
Long. = 107.3677452° W
NAD 83
Rio Arriba, New Mexico

Proposed Top of Production Location (Pilot): 974' FSL – 2310' FEL
Proposed Bottom Hole Location (Pilot): 1206' FSL – 2313' FEL
Proposed KOP (Lateral #1): 786' FSL – 2308' FEL
Proposed Landing (Lateral #1) 1004' FSL – 2543' FEL
Proposed Bottom Hole Location (Lateral #1): 660' FNL – 1332' FWL
Proposed KOP (Lateral #2): 776' FSL – 2308' FEL
Proposed Landing (Lateral #2) 1036' FSL – 2311' FEL
Proposed Bottom Hole Location (Lateral #2): 660' FNL – 2350' FEL
Proposed KOP (Lateral #3): 767 FSL – 2308' FEL
Proposed Landing (Lateral #3) 1029' FSL – 2034' FEL
Proposed Bottom Hole Location (Lateral #3): 660' FNL – 660' FEL
Section 9, T32N, R5W
Rio Arriba, New Mexico

Drilling program written in compliance with onshore Oil and Gas Order No. 1
(III.D.3, effective May 2007) and Onshore Order No. 2 Dated November 18, 1988

A. Names and estimated tops of all geologic groups, formations, members or zones.

Carson 32-5-9 1H Geological Report Surface Stake						
APD	Top MD (KB)	Top TVD (KB)	Top Subsea TVD	Thickness (FT)	Rock Type	Drilling Notes
San Jose	Surface	Surface	7245	1878	Unconsolidated Gravels	Boulders, Water, Lost Circulation
Nacimiento	1918	1878	5367	1200	Nonmarine shale, siltstone and sandstones	Water, Lost Circulation
Ojo Alamo	3321	3078	4167	147	Conglomerate sandstone, sandstone, siltstone and	Water, Possible Gas, Lost Circulation
Kirtland	3513	3225	4020	363	Claystone and white and brown sandstones	Clay, Water
Fruitland	3987	3588	3657	135	Mudstone, siltstone, sandstones, carbonaceous shales and coals	Gas Water
Main Fruitland Coal	4163	3723	3522	65	Target Coal 25' Top 3723	HZ Lateral
Bottom Coal	4248	3788	3457	8	Coal	Gas Water
Pictured Cliffs	4258	3796	3450	204	Shoreface sandstone	Gas Water
TD	4606	4000	3245	4000	TD Designed From Base of Bottom Coal Seam with 130 ft rat hole + 45 Ft Shoe and Complete Log Coverage Over Fruitland	

B. Estimated depth and thickness of formations, members or zones potentially containing useable water, oil, gas or prospectively valuable deposits of other minerals that the operator expects to encounter, and the operator's plans for protecting such resources.

Carson 32-5-9 1H Geological Report Surface Stake						
APD	Top MD (KB)	Top TVD (KB)	Top Subsea TVD	Thickness (FT)	Rock Type	Drilling Notes
San Jose	Surface	Surface	7245	1878	Unconsolidated Gravels	Boulders, Water, Lost Circulation
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Pictured Cliffs	4258	3796	3450	204	Shoreface sandstone	Gas Water
TD	4606	4000	3245	4000	TD Designed From Base of Bottom Coal Seam with 130 ft rathole + 45 Ft Shoe and Complete Log Coverage Over Fruitland	

Conductor: No conductor casing is necessary

Surface Casing: Protection of shallow fresh water shall be accomplished by setting surface casing 50' below known fresh water sources and cemented to surface with 9-5/8" surface casing.

Possible Aquifers: San Jose, Nacimiento and Ojo Alamo

Production Casing: Protection for all other formations will be accomplished by setting 7" casing and cementing to surface. The 7" production casing will be matrix stimulated prior to re-entry for the lateral open hole sections. Same as Completion procedure on page 7 and Horizontal Re-Entry Procedure page 8.

Not planning on hydraulic fracture treatment – perforate with near wellbore matrix acid clean up, cement drilling fluids damage.

Production Liners: Will be pre-perforated, uncemented, unstimulated liners to maintain hole stability.

- C. The operator's minimum specifications for blowout prevention equipment and diverter systems to be used, including size, pressure rating, configuration and the testing procedure and frequency. Blowout prevention equipment must meet the minimum standards outlined in Order 2.**

BOP equipment and accessories will meet or exceed BLM requirements outlined in 43 CFR Part 3160.

The working pressure of all BOPE shall exceed the anticipated surface pressure to which it may be subjected, assuming a partially evacuated hole with a pressure gradient of 0.22 psi/ft.

Expected Maximum Bottom Hole pressure = $0.433 \text{ psi/ft.} \times 4000' = 1732 \text{ psi}$, which is less than 2,000 psi working pressure. Maximum anticipated surface pressure will be $1732 \text{ psi} - (4000' \times 0.22 \text{ psi/ft}) = 852 \text{ psi}$. Therefore, a 2000 psi Class 2 BOPE system is required that consists of the following:

- 2 preventers with either double ram (blind and pipe) or annular preventer and blind rams.
- Kill line (2" minimum)
- 1 Kill line valve (2" minimum)
- 1 choke line valve
- 2 chokes (refer to diagram in Attachment 1)
- Upper Kelly cock valve with handle available

- Safety valve and subs to fit all drill strings in use
- Pressure gauge on choke manifold
- 2" minimum choke manifold
- Fill-up line above the uppermost preventer

See attached diagram for the proposed BOP systems. Stack #1 will be nipped-up on the 11" 3,000 psi top flange of the wellhead A section for the pilot hole and the dual lateral re-entry. The BOP will be hydraulically operated.

All ram preventers and related equipment will be tested to 2,000 psi for 10 minutes. Annular preventers will be tested to 70% of rated working pressure for 10 minutes. Surface casing will be tested to 1500 psi. All preventers and surface casing will be tested before drilling out of surface casing. BOP equipment will be tested when initially installed, whenever any seal subject to test pressure is broken, following related repairs and at least once every 30 days. Annular preventers will be functionally operated at least once per week. Rams preventers will be activated each trip, not to exceed once per day.

- D. The operator's proposed casing program, including size, grade, weight, type of thread and coupling, the setting depth of each string, and it's condition. The operator must include the minimum design criteria, including casing loading assumptions and corresponding safety factors for burst, collapse, and tensions (body yield and joint strength). The operator must also include the lengths and setting depth of each casing when a tapered casing string is proposed. The hole size for each wellbore section of hole drilled must be included. Special casing designs such as the use of coil tubing or expandable casing may necessitate additional information.**

Casing & Hole Size	Grade	Weight	Coupling	Setting Depth (MD)	Condition
9-5/8" (12-1/4")	J-55	36 ppf	LT&C	0' - 300'	New casing.
7" (8-3/4")	J-55	26 ppf	LT&C	0' - 4606'	New casing.
4-1/2" (6-1/8") Lateral #1	J-55	11.6 ppf	LT&C	3875-7947'	Used casing. 10' below window TD
4-1/2" (6-1/8") Lateral #2	J-55	11.6 ppf	LT&C	3860'-7063'	Used casing. 10' below window TD
4-1/2" (6-1/8") Lateral #3	J-55	11.6 ppf	LT&C	3845-7915'	Used casing. 10' below window TD

The 9-5/8" surface and 7" production casing strings will be tested to .22 psi per foot of the casing string length or 1500 psi, whichever is greater, but not to exceed 70% of the minimum internal yield. The 4-1/2" pre-perforated production casing liners will be uncemented, unstimulated and not tested. The purpose of the 4-1/2" liner is to keep the hole from collapsing. Isolation for the 4-3/4" laterals will be maintained by the cased and cemented pilot hole with 7" casing and cement to surface.

Minimum casing design factors used:

Collapse -	1.0
Burst -	1.1
Tension -	1.4

Surface casing shall have a minimum of 1 centralizer per joint on the bottom three (3) joints, starting with the shoe joint. The 7" production casing will be centralized approximately 1 every fourth joint.

Surface Casing Design - Evaluation/Casing Test (Collapse & Burst), 100k overpull (Tension)

Minimum Safety Factors				Collapse	Burst	Tension			
				1.125	1.100	1.400			
	Size	Weight	Grade	Conn	Collapse	Burst	Tension (Pipe Body)	Tension (Connection)	Notes
Surface	9.625	36	J-55	LT&C	2020	3520	546000	453,000	0-300'
					80% of Burst		2816		
Casing Depth			MW IN		MW Out		Pres In	Pres Out	SF
Collapse	300		0.0		15.8		0	246	8.20
Full evacuation with 15.8 ppg cement in the annulus									
Burst	300		9.0		0.0		1500	0	2.35
1500 psig test									
				Mud Wt		Air Weight		Bouy Wt	BW+100K
Tension (Pipe Body)	300		9.0		10800		9316	109316	4.99
Tension (Connection)	300		9.0		10800		9316	109316	4.14
100K overpull									
BF = 1-MW/65.5= 0.84732									

Production Casing Design - Evaluation/Casing Test (Collapse & Burst), 100k overpull (Tension)

	Minimum Safety Factors						Tension (Pipe Body)	Tension (Connection)	Notes
	Collapse	Burst	Tension						
				1.125	1.100	1.400			
Production	7	26	J-55	LT&C	4320	4980	415000	367,000	0-4606'
					80% of Burst		3984		
	Casing Depth		MW IN		MW Out		Pres In	Pres Out	SF
Collapse	4606		0.0		13.5		0	3233	1.34
Full evacuation with 15.8 ppg cement in the annulus									
Burst	4606		10.0		0.0		1500	0	3.32
1500 psig test									
			Mud Wt		Air Weight		Bouy Wt	BW+100K	
Tension (Pipe Body)	4606		10.0		119756		101473	201473	2.06
ension (Connection)	4606		10.0		119756		101473	201473	1.82
100K overpull									
BF = 1-MW/65.5= 0.84732									

- E. The estimated amount and type(s) of cement expected to be used in the setting of each casing string. If stage cementing will be used, provide the setting depth of the stage tool(s) and the amount and type of cement including additives, to be used for each stage. Provide the yield of each cement slurry and the expected top of cement, with excess, for each cemented string or stage.**

The proposed 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. All indications of useable water shall be reported.

The 9-5/8" surface casing shall be cemented back to surface. In the event cement does not circulate to surface, remedial cementing shall be done to cement the casing back to surface. If returns are lost and/or cement is not brought to surface, a cement bond log (CBL) will be required to determine the quality of the job prior to drilling ahead (see OO2).

Top plugs shall be used to reduce contamination of cement by displacement fluid. A fluid spacer will be pumped to help isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry.

The 7" production casing will be cemented to surface. Tail cement for the 7" production casing cement job is designed to cover 500' above the Fruitland formation top, lead cement is designed to be circulate to surface. Planned excess is 30% in the open hole, excess volume approximately 33 bbls. The 4-1/2" production liners will be uncemented.

Surface Casing Single Stage Job – (0-300' MD):**Excess – 100% over gauge hole – 12-1/4" hole and 9-5/8" casing (0.31318 ft3/ft)****Top of Tail Cement - 0'****Tail Slurry - (0' – 300' MD): 177 sx** - 15.8 ppg, conventional cement containing:

PREMIUM CEMENT – Cement – 94 lbs/sx

Calcium Chloride - 2%

Poly-E-Flake – Lost Circulation Control Agent – 0.125 lbs/sx

Yield – 1.174 ft3/sx

Water requirement – 5.13 gal/sx.

Total sacks of cement pumped on surface job = 177 sx**Production Casing Single Stage Job – (0-4606' MD):****Excess – 30% over gauge hole – 8-3/4" hole and 7" casing (0.1503 ft3/ft)****Excess - 0% inside surface casing – 8.921" surf csg ID and 7" casing (0.1668 ft3/ft)****Top of Lead Cement - Surface****Lead Slurry - (0' – 3300' MD): 268 sx** - 12.3 ppg, conventional cement containing:

VARICEM™ CEMENT – Cement – 94.02 lbs/sx

FE-2 – Controls Gel Thickening – 0.30%

Kol-Seal – Lost Circulation Control Agent – 5 lbs/sx

Poly-E-Flake – Lost Circulation Control Agent – 0.125 lbs/sx

Yield – 2.395 ft3/sx

Water requirement – 13.29 gal/sx.

Top of Tail Cement - 3300' MD**Tail Slurry - (3300' – 4606'): 150 sx** - 13.5 ppg, conventional cement containing:

VARICEM™ CEMENT – Cement – 94.02 lbs/sx

Super CBL - Gas Block Additive - 0.30%

FE-2 – Controls Gel Thickening – 0.30%

Kol-Seal – Lost Circulation Control Agent – 5 lbs/sx

Poly-E-Flake – Lost Circulation Control Agent – 0.125 lbs/sx

Yield – 1.844 ft3/sx

Water requirement – 9.16 gal/sx.

Total sacks of cement pumped on production job = 418 sx

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

All waiting on cement times shall be a minimum of 8 hours or adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

- F. Type and characteristics of the proposed circulating medium or mediums proposed for the drilling of each well bore section, the quantities and types of mud and weighting material to be maintained, and the monitoring equipment to be used on the circulating system. The operator must submit the detailed information when air or gas drill is proposed.**

Interval (MD)	Hole Section	Hole Size	Type	MW (ppg)	VIS (s/qt)	FL (mL/30 min)	PV (cP)	YP (lbs/100ft ²)	Max Salinity (mg/L)	pH
0'-300'	Surface	12-1/4"	FW/Gel	8.4-9.0	~100	NC	16-22	18-24	2500	8-8.9
300'-4606'	Production	8-3/4"	LSND	8.4-9.0	35-45	<10	6-21	4-27	5000	8-9.5
3870'-7952'	Lat #1	6-1/8"	Brine	8.6-9.8	28-34	NC	1	4	300000	8-9.1
3855'-7068'	Lat #2	6-1/8"	Brine	8.6-9.8	28-34	NC	1	4	300000	8-9.1
3840'-7920'	Lat #3	6-1/8"	Brine	8.6-9.8	28-34	NC	1	4	300000	8-9.1

Sufficient weighting material will be on hand to weight mud up to 10.5 PPG, if required.

The formula for weight up with barite is listed below:

Sacks of Barite per 100 bbl of mud = $1470 \times (W2 - W1) \div (35 - W2)$

Where; W1 = current mud weight, W2 = new mud weight

Sacks = $1470 \times (10.5 - 9.0) / (35 - 10.5) = 126 \text{ sx} \times 3 \text{ (300bbls minimum)} = 270\text{sx}$

Mud Product	Estimated Quantity on Location
Baroid 41	270 sx
Aquagel Gold Seal	250 sx
Lime	4 sx
Caustic Soda	8 sx
EZ-Mud	20 buckets
Barazan D Plus	20 sx
Pac R	20 sx
Filter-Chek	30 sx
LCM	120 sx

Pit Volume Totalizer (PVT) equipment (or equivalent) will be on each pit to monitor pit levels. A trip tank equipped with a PVT sensor will be used to monitor trip volumes. Possible lost circulation in the Fruitland Coal and Pictured Cliffs Sand. Lost circulation has been successfully mitigated with lost circulation materials.

There will not be a reserve pit for this well. A closed-loop system will be used to recover drilling fluid and dry cuttings during both the pilot hole and laterals hole sections of the well. Above-ground tanks will be utilized to hold cuttings and fluids for rig operations. Frac tanks will be on location to store fresh water, produced water, drilling mud and brine.

G. The testing, logging, and coring procedures proposed, including drill stem testing procedures, equipment, and safety measures.

Testing: None planned.

Open Hole Logging: LWD gamma ray for all lateral hole sections (from casing exit to TD).

Mud Logging: All lateral hole sections. Samples taken every 90'.

Coring: None planned.

Cased Hole Logging: If cement is not brought to surface on the surface casing string, then a cement bond log (CBL) will be run to determine the quality of the job prior to drilling ahead. A Cement Bond Log (CBL) will be run after the drilling of the well has been completed and as the start of the completion process. The CBL will confirm the quality of the cement bond and the actual TOC. Gamma ray and density logs may be obtained with the CBL to describe the stratigraphy of the wellbore.

H. The expected bottom-hole pressure and any anticipated abnormal pressures, temperatures, or potential hazards that the operator expects to encounter, such as lost circulation and hydrogen sulfide. A description or the operators plans for mitigating such hazards must be included.

Maximum expected BHP @ TD 4606' MD / 4000' TVD (0.433 psi/ft): 1732 psi

Maximum expected BHT @ 4000' TVD: ~140° F

The maximum anticipated bottom hole pressure will be controlled with mud weight and BOP equipment.

Possible lost circulation in the Fruitland Coal at 4163' MD and Pictured Cliffs Sand at 4258' MD during the pilot hole drilling. Lost circulation has been successfully mitigated with lost circulation materials. 120sx of LCM materials will be located onsite to manage lost circulation as needed. Possible lost circulation during the lateral re-entry hole sections. Drilling with losses will be mitigated with additional storage tanks for produced water and brine storage.

No hydrogen sulfide gas is anticipated, however, if H₂S is encountered, the guidelines in Onshore Order No. 6 will be followed.

I. Any other facets of the proposed operation that the operator would like the BLM to considered in reviewing the application. Examples include, but are not limited to: For directional wells, proposed directional designs, plan view, and vertical section in true vertical and measured depths: Horizontal drilling; and Coil tubing Operations.

Timing:

The operation is expected to start May 2022. The pilot hole drilling operations will last approximately 7 days. After the pilot hole has been perforated and acid stimulated the drilling rig will re-enter the 7" production casing, set whipstock(s), sidetrack and drill the 6-1/8" lateral hole sections. The pilot hole and laterals may be drilled in one drilling rig event. Upon completion of the drilling and completion events, the completion rig will be on location approximately two to three weeks to run tubing and set artificial lift.

Directional Plans:

Pilot hole, Lateral #1, Lateral #2, Lateral #3 directional plans and proposed wellbore schematic attached.

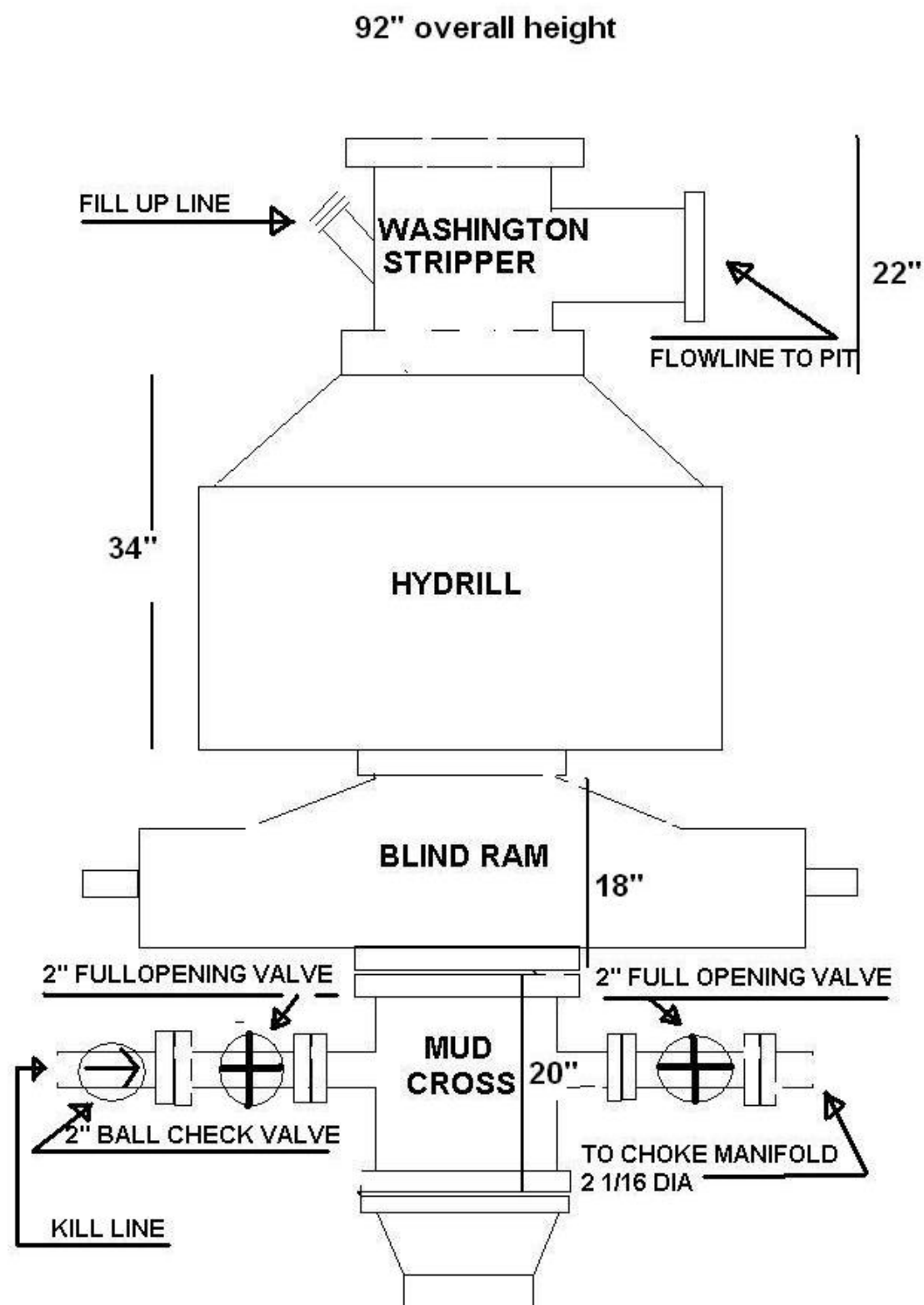
Completion:

The vertical pilot hole well will be perforated, and acid stimulated to the economic coal seams, identified by cased hole logs, within the Fruitland coal interval estimated from 4163'-4222' MD. It will be cased and cementing with 7" production casing and stimulated with a small volume of acid to ensure perforations are open. The laterals will be cased with 4-1/2" pre-perforated un-cemented tubing to maintain hole stability for natural open hole completion.

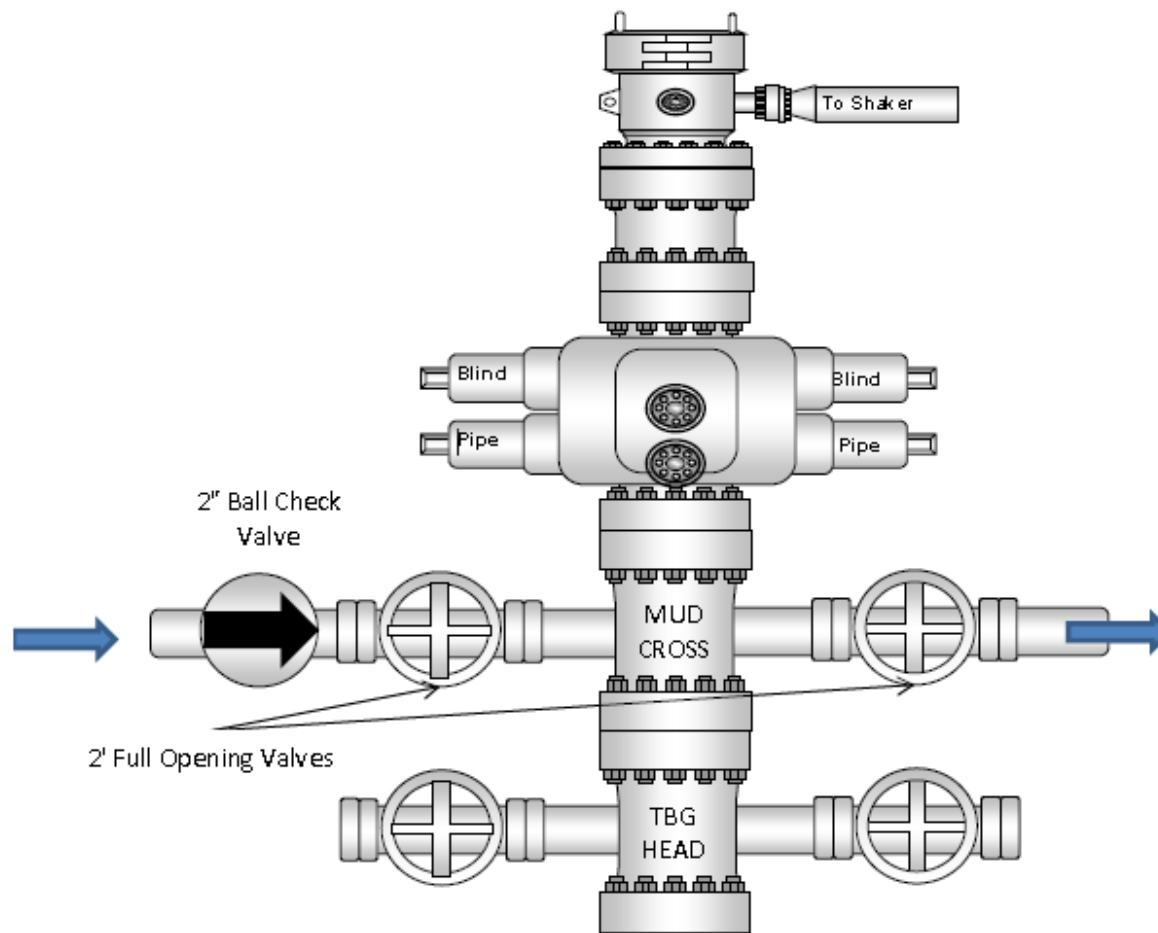
Horizontal Re-entry Procedure:

- Drill vertical pilot hole.
- Completed with 7" production casing and cement to surface.
- Pilot hole will be perforated and may be stimulated with a light acid treatment in the Fruitland Coal.
- Run gyro survey, orient and set whipstock for casing exit #1 @ +/-3870' MD
- Mill window and TOOH for curve BHA.
- Planned KOP #1 @ 3870' MD / 3499 TVD.
- Drill 6-1/8" curve from 3870' MD / 3499' TVD to landing point @ 4272' MD / 3683' TVD at 90.13°.
- TOOH and PU lateral BHA.
- Drill from 4272' MD / 3683' TVD to 7952' MD / 3674' TVD.
- TOOH and run 4-1/2" pre-perforated liner from 3875' MD to TD @ 7947' MD.
- Run gyro survey, orient and set whipstock for casing exit #2 @ +/-3855' MD
- Mill window and TOOH for curve BHA.
- Planned KOP #2 @ 3855' MD / 3487' TVD.
- Drill 6-1/8" curve from 3855' MD / 3487' TVD to landing point @ 4153' MD / 3612' TVD at 88.80°.
- TOOH and PU lateral BHA.
- Drill from 4153' MD / 3612' TVD to 7068' MD / 3673' TVD.
- TOOH and run 4-1/2" pre-perforated liner from 3860' MD to TD @ 7063' MD.
- Run gyro survey, orient and set whipstock for casing exit #3 @ +/-3840' MD
- Mill window and TOOH for curve BHA.
- Planned KOP #3 @ 3840' MD / 3476' TVD.
- Drill 6-1/8" curve from 3840' MD / 3476' TVD to landing point @ 4315' MD / 3693 TVD at 90.50°.
- TOOH and PU lateral BHA.
- Drill from 4315' MD / 3693' TVD to 7920' MD / 3648' TVD.
- TOOH and run 4-1/2" pre-perforated liner from 3845' MD to TD @ 7915' MD.
- TIH and Set Retrievable Kill Plug.
- Test Plug.
- Secure well, rig down and move off location.

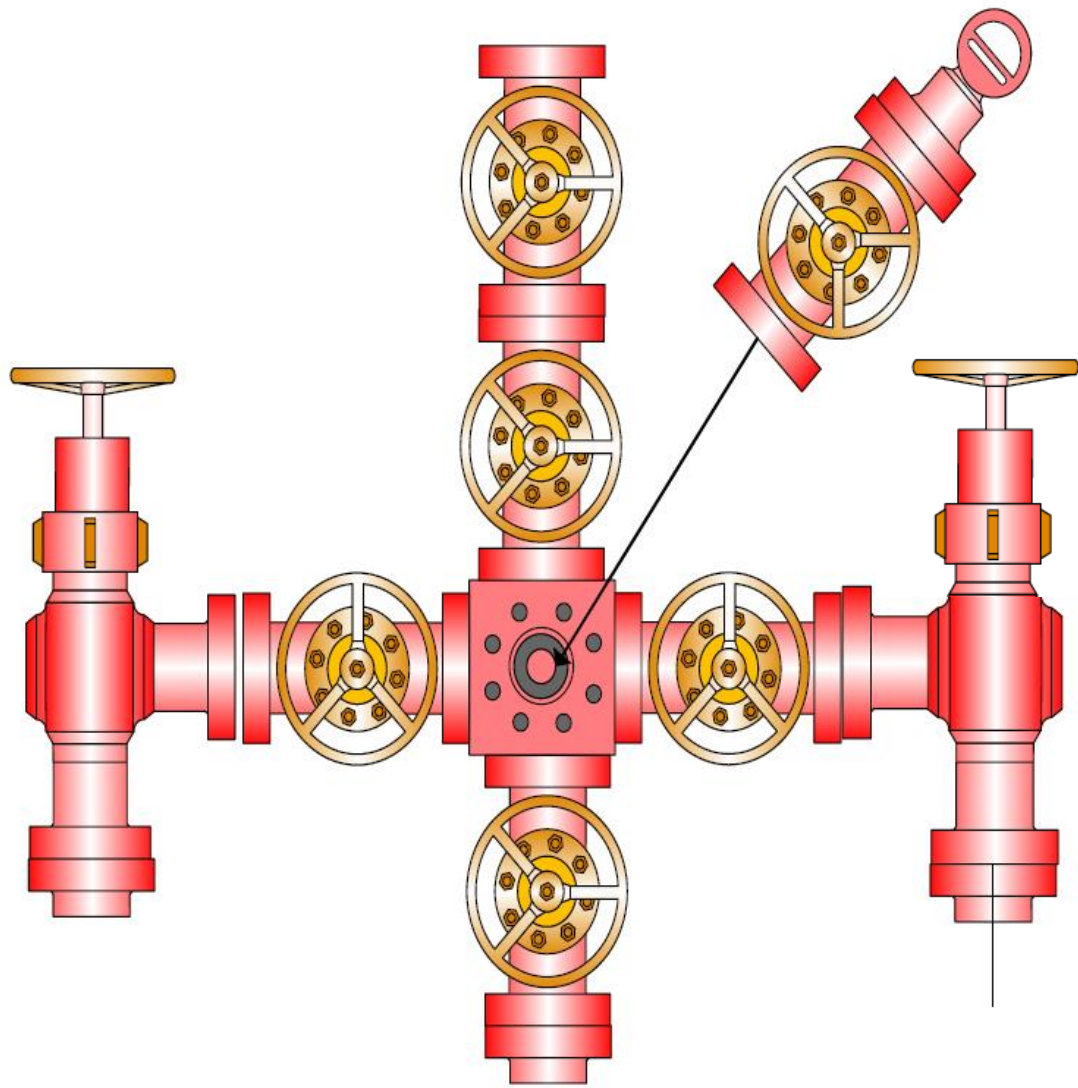
NOTE: Depths and directional plans are based on estimated formation tops. Corrections for KOP and landing points will be made based on actual formation tops from logs and BHA selection.



Proposed Class 2 BOP Stack - STACK #1 (PILOT HOLE)



Proposed Class 2 BOP Stack - STACK #2 (LATERAL RE-ENTRY)



(Minimum 2")

Proposed 2,000 psi Choke Manifold Stack

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: Coleman Oil and Gas, Inc. **OGRID:** 4838 **Date:** 02 / 17 / 2022

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Carson 32-5-9 1H	Pending	B-16-32N-5W	124 FNL 2626 FEL	0 BBL/D	2000 MCF/D	150 BBL/D

IV. Central Delivery Point Name: MorningStar Operating, LLC Carracas CDP Meter ID 6009A [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Carson 32-5-9 1H	Pending	Early 2022	RT 15-20 Days	RDRT	RDCT	RDFB Equip
		04/01/2022	04/20/2022	04/25/2022	05/05/2022	05/15/2022

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☐ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

If Operator checks this box, Operator will select one of the following:

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: 
Printed Name: Cory Walk
Title: Agent
E-mail Address: cory@permitswest.com
Date: 02/17/2022
Phone: 505-466-8120
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

Attachments:

Separation Equipment: Below is a complete description of how Operator will size separation equipment to optimize gas capture.

Description of how separation equipment will be sized to optimize gas capture:

Well separation equipment is sized to have appropriate residence time and vapor pace to remove gas particles on the micron scale per typical engineering calculations and/or operational experience.. All gas is routed to end uses or the sales pipeline under normal operating conditions.

Operational & Best Management Practices: Below is a complete description of the actions the Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC. Additionally, below is a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Drilling Operations:

Coleman Oil and Gas will minimize venting by:

- Gas will only be vented to the atmosphere to avoid risk of immediate substantial adverse impact to employee safety, public health and the environment.
- If utilized, flare stacks shall be located at a minimum of 100 feet from the nearest surface hole location.

Completion Operations:

Coleman Oil and Gas will minimize venting by:

- Separator operations will commence as soon as technically feasible.
- Gas will route immediately to a collection system applied to other beneficial use, such as a fuel source for onsite equipment.
- During initial flowback and if technically feasible, flaring shall occur rather than venting.
- If natural gas does not meet pipeline standards, gas will be vented or flared. A gas analysis will be performed twice weekly until standards are met (for up to 60 days). This is not anticipated to occur.
- If required, all venting and flaring of natural gas during flowback operations shall be performed in compliance with Subsections B, C and D of 19.15.27.8 NMAC.

Production Operations:

Coleman Oil and Gas will minimize venting by:

- Shutting in the wells if the pipeline is not available. No flaring of high pressure gas will occur.
- Utilizing gas for equipment fuel, heater fuel, and artificial lift when allowable.
- Capturing low pressure gas via a gas capture system when allowable.
-

In General:

- All venting and flaring from drilling, flowback and operation phases shall be reported in compliance with Subsection G of 19.15.27.8 NMAC.
- If utilized, flare stacks shall be located at a minimum of 100 feet from the nearest surface hold location and 100 feet from the permanent facility storage tanks.

Flowback Strategy:

After the fracture treatment/completion operations, well(s) will be produced to temporary tanks and gas will be flared or vented. During flowback, the fluids and solid content will be monitored. When the produced fluids contain minimal solids, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless, there are operational issues on Gas Transporter system at that time. Based on current information, it is Operator's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that solids and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring:

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - ◆ Only a portion of gas is consumed operating generator remainder of gas will be flared
- Compressed Natural Gas – On lease, No initial plans to compress gas on lease, however it may be necessary later in life of well.
 - ◆ Gas flared would be minimal, but might be uneconomical to operate when gas volume declines.
- NGL Removal – On lease
 - ◆ Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines.
- Power generation for grid; Not Planned.

- Liquids removal on lease; Produced Water will be removed and transferred VIA truck or gathering system to produced water disposal.
- Reinjection for underground storage; Not Planned.
- Reinjection for temporary storage; Not Planned at this time.
- Reinjection for enhanced recovery; Not Planned at this time.
- Fuel cell production; and
- Other alternative beneficial uses approved by the division. Not Planned at this time.

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District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

COMMENTS

Action 82420

COMMENTS

Operator: COLEMAN OIL & GAS INC P.O. Drawer 3337 Farmington, NM 87499	OGRID: 4838
	Action Number: 82420
	Action Type: [C-103] NOI Change of Plans (C-103A)

COMMENTS

Created By	Comment	Comment Date
kpickford	KP GEO review 2/23/2022	2/23/2022
jagarcia	Approved, John Garcia, Petroleum Engineer	3/9/2022

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CONDITIONS

Created By	Condition	Condition Date
kpickford	Adhere to previous NMOCD Conditions of Approval	2/23/2022