

FORM
4
Rev 12/05

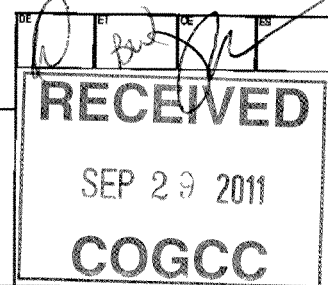
State of Colorado

Oil and Gas Conservation C

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303)894-2100 Fax: (303)894-2109



01648992



SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form.) Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b.)

1. OGCC Operator Number: 10079	4. Contact Name: Hannah Knopping	Complete the Attachment Checklist OP OGCC
2. Name of Operator: Antero Resources Piceance Corporation	Phone: 303-357-6412	
3. Address: 1625 17th Street City: Denver State: CO Zip: 80202	Fax: 303-357-7315	
5. API Number 05-045-20131-00	OGCC Facility ID Number	
6. Well/Facility Name: McLin	7. Well/Facility Number: C13	Survey Plat <input checked="" type="checkbox"/> 2537050
8. Location (Qtr/Qtr, Sec, Twp, Rng, Meridian): NESE, Section 13, T6S, R92W, 6th P.M.		Directional Survey <input checked="" type="checkbox"/> 2537051
9. County: Garfield	10. Field Name: Mamm Creek Kokopelli	Surface Eqpm Diagram
11. Federal, Indian or State Lease Number:		Technical Info Page <input checked="" type="checkbox"/>
		Other

General Notice

☒ CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)

Change of Surface Footage from Exterior Section Lines:	1828' <input checked="" type="checkbox"/>	FNL/FSL: S	230' <input checked="" type="checkbox"/>	FEL/FWL: E
Change of Surface Footage to Exterior Section Lines:	1862' <input checked="" type="checkbox"/>	S	212' <input checked="" type="checkbox"/>	E
Change of Bottomhole Footage from Exterior Section Lines:				
Change of Bottomhole Footage to Exterior Section Lines:				

Bottomhole location Qtr/Qtr, Sec, Twp, Rng, Mer
Latitude 39.525150 Distance to nearest property line 581' Distance to nearest bldg, public rd, utility or RR 209'
Longitude 107.607103 Distance to nearest lease line N/A Is location in a High Density Area (rule 603b)? Yes/No N
Ground Elevation 5725' Distance to nearest well same formation N/A Surface owner consultation date: 8/16/2010

GPS DATA:

Date of Measurement 1/19/2010 PDOP Reading 2.4 Instrument Operator's Name Scott E. Aibner

☒ CHANGE SPACING UNIT

Formation Formation Code Spacing order number Unit Acreage Unit configuration
Williams Fork-Iles WFILS 191-68 240 SE/4, N/2SW/4

☐ Remove from surface bond
Signed surface use agreement attached

☐ CHANGE OF OPERATOR (prior to drilling):

Effective Date:
Plugging Bond: ☐ Blanket ☐ Individual

☐ CHANGE WELL NAME

From: NUMBER
To:
Effective Date:

☐ ABANDONED LOCATION:

Was location ever built? ☐ Yes ☐ No
Is site ready for inspection? ☐ Yes ☐ No
Date Ready for Inspection:

☐ NOTICE OF CONTINUED SHUT IN STATUS

Date well shut in or temporarily abandoned:
Has Production Equipment been removed from site? ☐ Yes ☐ No
MIT required if shut in longer than two years. Date of last MIT

☐ SPUD DATE:☐ REQUEST FOR CONFIDENTIAL STATUS (6 mos from date casing set)☐ SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK

*submit cbl and cement job summaries

Method used Cementing tool setting/perf depth Cement volume Cement top Cement bottom Date

☐ RECLAMATION:

Attach technical page describing final reclamation procedures per Rule 1004.
Final reclamation will commence on approximately

☐ Final reclamation is completed and site is ready for inspection.

Technical Engineering/Environmental Notice

☒ Notice of Intent

Approximate Start Date: November 1, 2011

☐ Report of Work Done

Date Work Completed:

Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)

☐ Intent to Recomplete (submit form 2)☐ Request to Vent or Flare☐ E&P Waste Disposal☒ Change Drilling Plans☐ Repair Well☐ Beneficial Reuse of E&P Waste☐ Gross Interval Changed?☐ Rule 502 variance requested☐ Status Update/Change of Remediation Plans☒ Casing/Cementing Program Change☐ Other:

for Spills and Releases

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed:

Date: 9/29/2011

Email: hknopping@anteroresources.com

Print Name: Hannah Knopping

Title: Permit Representative

COGCC Approved:

Title: NJWAE

Date: 2/3/12

CONDITIONS OF APPROVAL, IF ANY:

No DEEPER OBJECTIVE COF: The following formations are currently approved as objective formations: Williams Fork and ILES. No deeper objective formation(s) will be completed as a result of this increase in total measured depth.

OPR may have to increase cement amount in order to ensure TOC @ 2500' above TOG.

TECHNICAL INFORMATION PAGE



FOR OGCC USE ONLY

RECEIVED

SEP 29 2011

COGCC

1. OGCC Operator Number: 10079 API Number: 05-045-20131-00
2. Name of Operator: Antero Resources Piceance Corp OGCC Facility ID #
3. Well/Facility Name: McLin Well/Facility Number: C13
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): NESE, Section 13, T6S, R92W, 6th P.M.

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

5. DESCRIBE PROPOSED OR COMPLETED OPERATIONS

To correspond with our new total depth of 7801' (MD) and 7175' (TVD), we would like to make the following revisions to our casing/cement programs for the McLin C13:

Conductor: In a 24" hole, set 16", 55# casing at 60' and cement from 60' to surface using 177 sacks of cement.

Surface: In a 12-1/4" hole, set 8-5/8", 24/32# surface casing at 1000' and cement from 1000' to surface using 416 sacks of cement.

Production: In a 7-7/8" hole, set 4-1/2", 11.6# production casing at 7801' (TD) and cement to > 500' above TOG using 786 sacks of cement.

Please be advised that the mineral lease description and lease acres for the new proposed BHL is the same as originally permitted.

NO DEEPER



02537650

RECEIVED

SEP 29 2011

COGIC

Well Location Plat McLin C13

Section 13, Township 6 South, Range 92 West

Northwest Corner Sec. 13,
County Surveyor Alum. Cap

S 88°58'49" E

2623.68'

North Corner Sec. 13,
County Surveyor Alum. Cap

S 88°58'00" E

2633.78'

Northeast Corner Sec. 13,
BLM Aluminum Cap

S 01°11'55" W

2634.62'

NW 1/4

2637.60'

S 00°58'41" W

NE 1/4

N 01°00'57" E

2640.39'

500' 0' 1000'

Graphic Scale in Feet
1" = 1000'

Legend

- ◆ - Field Surveyed Section Corner
- ◆ - Field Surveyed Quarter Corner
- - Calculated Section Corner Location
- ◆ - Field Surveyed 1/8 Corner

SEC. 13
T.6S., R.92W.

West 1/4 Corner Sec. 13,
Stone in Place

S 88°54'38" E

5265.87'

East 1/4 Corner
Sec. 13,
Garfield
County Alum.
Cap

Note: Improvements Exist Within 400' of
Well Site. See Sheet 3.

Current Surface Land Use :
Hay Field

N 01°00'52" E

2643.54'

N 89°10'59" W

2635.18'

S 89°10'59" E

BHL C13

171.1

1665.8

Southeast Corner Sec. 13,
BLM Aluminum CapSouth 1/4 Corner Sec. 13,
Garfield County
Brass Cap in PlaceSouthwest Corner Sec. 13,
3/4" Pipe, Cap Missing

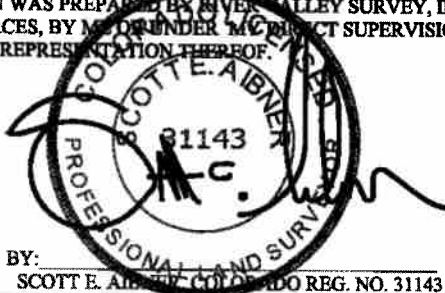
Prepared For Antero Resources
Proposed McLin C13 Well Situate in The NE 1/4 SE 1/4 Section
13, Township 6 South, Range 92 West of the 6th Principal
Meridian, County of Garfield, State of Colorado

SURVEYOR'S CERTIFICATE

I, SCOTT E. AIBNER, A REGISTERED LAND SURVEYOR, LICENSED UNDER THE LAWS
OF THE STATE OF COLORADO DO HEREBY CERTIFY THAT THE SURVEY SHOWN
HEREON WAS PREPARED BY RIVER VALLEY SURVEY, INC., FOR ANTERO
RESOURCES, BY MEANS OF MY DIRECT SUPERVISION AND THAT THIS PLAT IS
A TRUE REPRESENTATION THEREOF.

BY:

SCOTT E. AIBNER, COLORADO REG. NO. 31143



Notes:

1. LATITUDE AND LONGITUDE COORDINATES ARE DIFFERENTIALLY CORRECTED AND BASED ON PUBLISHED NGS CONTROL STATION "WDP-5". SYSTEM: UTM ZONE: 13 NORTH DATUM: NAD 1983 (CONUS)
2. ELEVATIONS ARE BASED ON NAVD OF 1983.
3. ALL BOTTOM AND TOP HOLE LOCATIONS ARE MEASURED 90 DEGREES FROM SECTION LINE.
4. USGS QUADRANGLE MAP "SILT".
5. CURRENT SURFACE LAND USE: HAY FIELD.
6. PDOP AT THE TIME OF LOCATION OF SURFACE WELL = 2.4

Surface: McLin C13

1862' FSL

212' FEL

Gnd El= 5725.2

Pad El= 5726.0

NAD83

Lat: 39.525150173°N

Long: 107.607103653°W

NAD27

Lat: 39.525169564°N

Long: 107.606490643°W

UTM 13 NORTH

NAD 1983

NORTHING

14364477.833

EASTING

905213.919

Bottom Hole: McLin C13

171' FSL

1666' FEL

NAD83

Lat: 39.520450603°N

Long: 107.612157635°W

NAD27

Lat: 39.5204721°N

Long: 107.6115445°W



River Valley Survey, Inc.
110 East 3rd. Street, Suite 213
Rifle, Colorado 81650
Ph: 970-379-7846

Project: McLin C PAD

Field Date: 01-19-10

Scale: 1" = 1000'

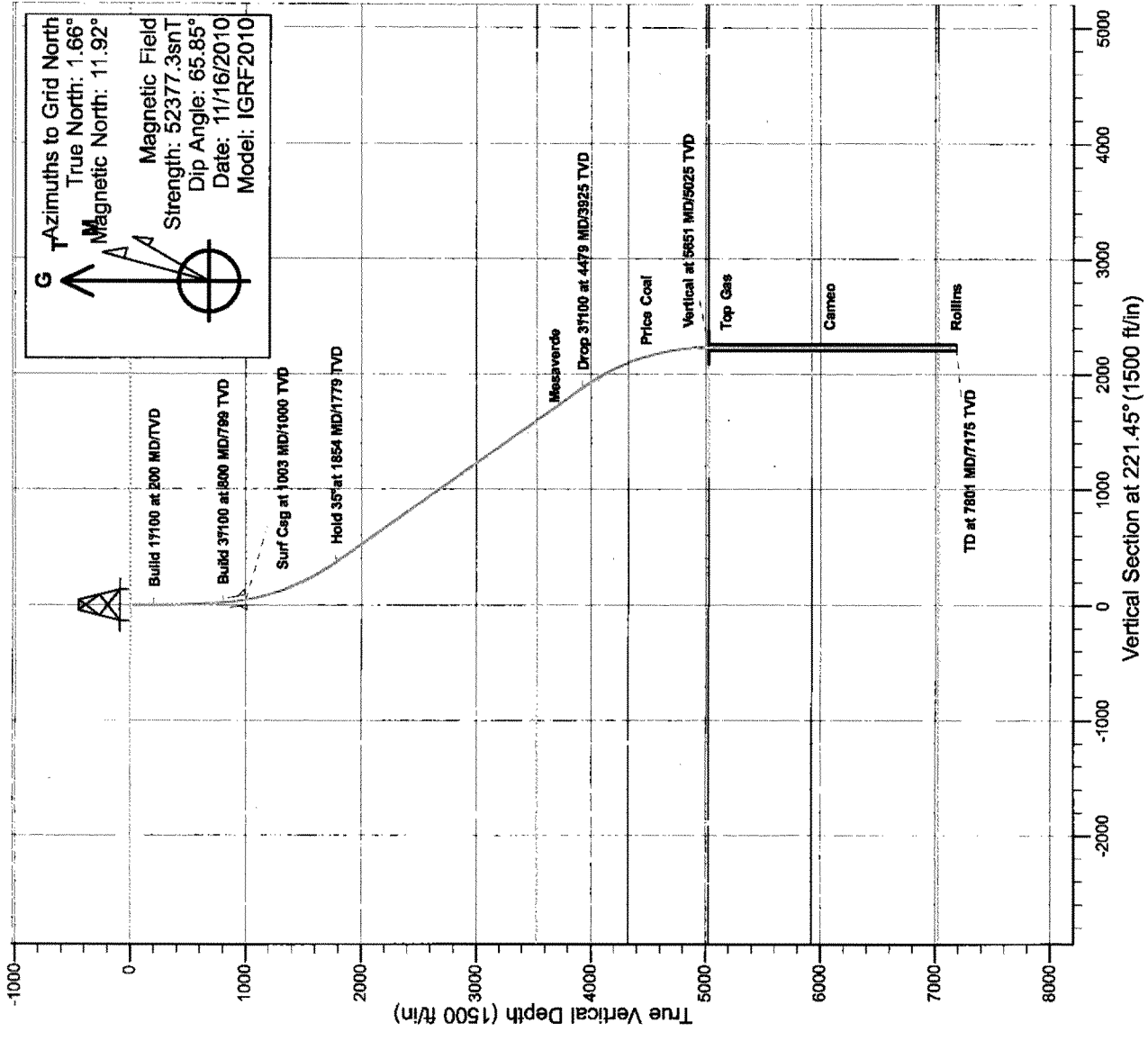
Date: 09-19-11

Sheet: 1 of 11

Well Location Plat
Prepared For Antero Resources

Situate In:
SE 1/4 Section 13, T.6S., R. 92 W. of the
6th P.M., Garfield County, Colorado





G T-Azimuths to Grid North
True North: 1.66°
Magnetic North: 11.92°

M Magnetic Field
Strength: 52377.3snT
Dip Angle: 65.85°
Date: 11/16/2010
Model: IGRF2010

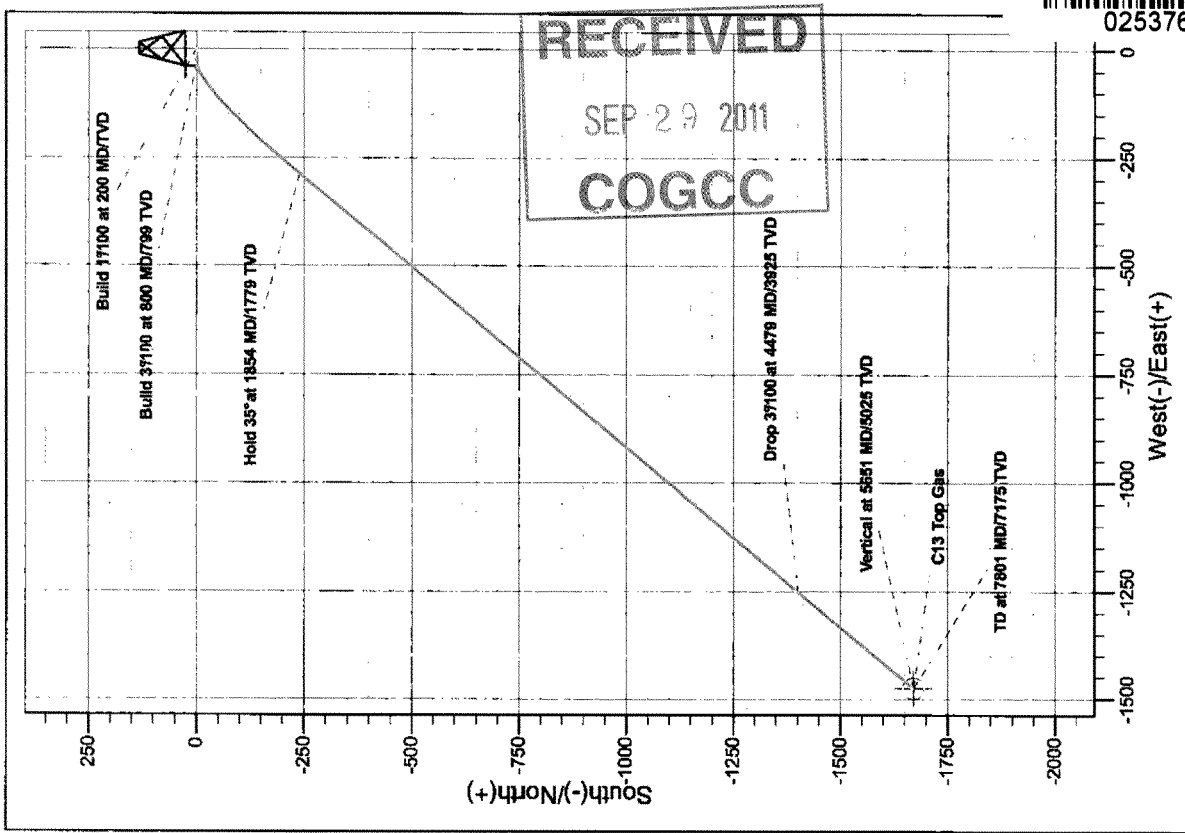
REFERENCE INFORMATION	
Co-ordinate (N/E)	Reference: Well McLin C13 (111232) - Slot C13, Grid North
Vertical (TVD)	Reference: KB @ 5750.00ft (Original Well Elev)
Section (VS)	Reference: Slot - C13(0.00N, 0.00E)
Measured Depth	Reference: KB @ 5750.00ft (Original Well Elev)
Calculation Method: Minimum Curvature	

PROJECT DETAILS: McLin	
Geodetic System: Universal Transverse Mercator	
Datum: NAD83 Colorado - HARN	
Ellipsoid: GRS 1980	
Zone: Zone 13N (108 W to 102 W)	
System Datum: Mean Sea Level	

DIRECTIONAL PLAN

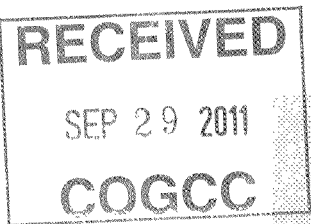


02537651



RECEIVED
SEP 29 2011
COGCC

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/S	+E/W	Dleg	TFace	VSecl	Target
0.00	0.00	0.00	0.00	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
800.00	0.00	0.00	798.90	0.00	-31.39	1.00	270.00	20.78	0.00
1853.72	35.15219	71.1778	65	-239.44	-286.77	3.00	-67.66	369.30	0.00
4479.32	35.15219	71.3925	46	-1402.25	-1252.59	0.00	0.00	1880.21	0.00
5650.98	0.00	0.00	5025.00	-1670.16	-1475.11	3.00	180.00	228.81	Top Gas
7800.98	0.00	0.00	7175.00	-1670.16	-1475.11	0.00	0.00	228.81	31



Antero Resources

McLin

McLin C

McLin C13 (111232) - Slot C13

McLin C13

Plan: McLin C13 P02

Standard Planning Report - Geographic

20 September, 2011

ARK Directional Services
Planning Report - Geographic

RECEIVED

SEP 29 2011

OGGCC

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C13 (111232) - Slot C13
Company:	Antero Resources	TVD Reference:	KB @ 5750.00ft (Original Well Elev)
Project:	McLin	MD Reference:	KB @ 5750.00ft (Original Well Elev)
Site:	McLin C	North Reference:	Grnd
Well:	McLin C13 (111232)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C13		
Design:	McLin C13 P02		

Project:	McLin		
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level
Geo Datum:	NAD83 Colorado - HARN		
Map Zone:	Zone 13N (108 W to 102 W)		

Site:	McLin C		
Site Position:		Northing:	14,364,522.75 usft
From:	Map	Easting:	905,235.88 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.20 in
		Latitude:	39.525275157°N
		Longitude:	107.607030464°W
		Grid Convergence:	-1.66 °

Well	McLin C13 (111232) - Slot C13					
Well Position	+N/-S	0.00 ft	Northing:	14,364,477.83 usft	Latitude:	39.525150173°N
	+E/-W	0.00 ft	Easting:	905,213.92 usft	Longitude:	107.607103653°W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,726.00 ft

Wellbore	McLin C13				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/16/10	10.26	65.85	52.377

Design:	McLin C13 P02			
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	221.45

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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	6.00	270.00	798.90	0.00	-31.39	1.00	1.00	0.00	270.00	
1,853.72	35.15	219.71	1,778.65	-239.44	-286.77	3.00	2.77	-4.77	-57.66	
4,479.32	35.15	219.71	3,925.46	-1,402.25	-1,252.59	0.00	0.00	0.00	0.00	
5,650.98	0.00	0.00	5,025.00	-1,670.16	-1,475.11	3.00	-3.00	0.00	180.00	C13 Top Gas
7,800.98	0.00	0.00	7,175.00	-1,670.16	-1,475.11	0.00	0.00	0.00	0.00	

ARK Directional Services
Planning Report - Geographic

RECEIVED

SEP 29 2011

COGCC

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C13 (111232) - Slot C13
Company:	Antero Resources	TVD Reference:	KB @ 5750.00ft (Original Well Elev)
Project:	McLin	MD Reference:	KB @ 5750.00ft (Original Well Elev)
Site:	McLin C	North Reference:	Grid
Well:	McLin C13 (111232)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C13		
Design:	McLin C13 P02		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	14,364,477.83	905,213.92	39.525150173°N	107.607103653°W	
Wasatch										
100.00	0.00	0.00	100.00	0.00	0.00	14,364,477.83	905,213.92	39.525150173°N	107.607103653°W	
200.00	0.00	0.00	200.00	0.00	0.00	14,364,477.83	905,213.92	39.525150173°N	107.607103653°W	
Build 1"/100 at 200 MD/TVD										
300.00	1.00	270.00	299.99	0.00	-0.87	14,364,477.83	905,213.05	39.525150104°N	107.607106744°W	
400.00	2.00	270.00	399.96	0.00	-3.49	14,364,477.83	905,210.43	39.525149895°N	107.607116018°W	
500.00	3.00	270.00	499.86	0.00	-7.85	14,364,477.83	905,206.07	39.525149549°N	107.607131471°W	
600.00	4.00	270.00	599.68	0.00	-13.96	14,364,477.83	905,199.96	39.525149063°N	107.607153098°W	
700.00	5.00	270.00	699.37	0.00	-21.80	14,364,477.83	905,192.12	39.525148440°N	107.607180893°W	
800.00	6.00	270.00	798.90	0.00	-31.39	14,364,477.83	905,182.53	39.525147677°N	107.607214847°W	
Build 3"/100 at 800 MD/799 TVD										
900.00	8.01	251.51	898.16	-2.21	-43.23	14,364,475.62	905,170.69	39.525140669°N	107.607256566°W	
1,000.00	10.51	241.03	996.86	-8.84	-57.82	14,364,468.99	905,156.10	39.525121323°N	107.607307582°W	
1,003.00	10.59	240.80	999.81	-9.11	-58.30	14,364,468.73	905,155.62	39.525120552°N	107.607309255°W	
Surf Csg at 1003 MD/1000 TVD										
1,100.00	13.21	234.67	1,094.72	-19.87	-75.13	14,364,457.97	905,138.79	39.525089693°N	107.607367755°W	
1,200.00	16.02	230.47	1,191.48	-35.26	-95.09	14,364,442.57	905,118.82	39.525045866°N	107.607436919°W	
1,300.00	18.89	227.50	1,286.87	-54.99	-117.67	14,364,422.85	905,096.25	39.524989961°N	107.607514886°W	
1,400.00	21.79	225.29	1,380.62	-78.98	-142.80	14,364,398.85	905,071.12	39.524922133°N	107.607601440°W	
1,500.00	24.71	223.59	1,472.49	-107.18	-170.41	14,364,370.85	905,043.51	39.524842566°N	107.607696346°W	
1,600.00	27.65	222.22	1,562.23	-139.51	-200.42	14,364,338.32	905,013.50	39.524751479°N	107.607799343°W	
1,700.00	30.60	221.10	1,649.57	-175.88	-232.75	14,364,301.95	904,981.17	39.524649122°N	107.607910148°W	
1,800.00	33.56	220.16	1,734.30	-216.19	-267.32	14,364,261.64	904,946.60	39.524535775°N	107.608028458°W	
1,853.72	35.15	219.71	1,778.64	-239.44	-286.77	14,364,238.40	904,927.15	39.524470455°N	107.608095000°W	
Hold 35° at 1854 MD/1779 TVD										
1,900.00	35.15	219.71	1,816.49	-259.93	-303.80	14,364,217.90	904,910.12	39.524412868°N	107.608153204°W	
2,000.00	35.15	219.71	1,898.25	-304.22	-340.58	14,364,173.61	904,873.34	39.524288436°N	107.608278969°W	
2,100.00	35.15	219.71	1,980.02	-348.51	-377.37	14,364,129.32	904,836.55	39.524164004°N	107.608404733°W	
2,200.00	35.15	219.71	2,061.78	-392.80	-414.15	14,364,085.04	904,799.77	39.524039572°N	107.608530497°W	
2,300.00	35.15	219.71	2,143.55	-437.09	-450.94	14,364,040.75	904,762.98	39.523915140°N	107.608656260°W	
2,400.00	35.15	219.71	2,225.31	-481.37	-487.72	14,363,996.46	904,726.20	39.523790708°N	107.608782023°W	
2,500.00	35.15	219.71	2,307.07	-525.66	-524.50	14,363,952.17	904,689.42	39.523666276°N	107.608907785°W	
2,600.00	35.15	219.71	2,388.84	-569.95	-561.29	14,363,907.89	904,652.63	39.523541843°N	107.609033547°W	
2,700.00	35.15	219.71	2,470.60	-614.24	-598.07	14,363,863.60	904,615.85	39.523417411°N	107.609159309°W	
2,800.00	35.15	219.71	2,552.37	-658.52	-634.86	14,363,819.31	904,579.06	39.523292978°N	107.609285070°W	
2,900.00	35.15	219.71	2,634.13	-702.81	-671.64	14,363,775.02	904,542.28	39.523168545°N	107.609410831°W	
3,000.00	35.15	219.71	2,715.90	-747.10	-708.43	14,363,730.74	904,505.49	39.523044112°N	107.609536591°W	
3,100.00	35.15	219.71	2,797.66	-791.39	-745.21	14,363,686.45	904,468.71	39.522919679°N	107.609662351°W	
3,200.00	35.15	219.71	2,879.43	-835.67	-782.00	14,363,642.16	904,431.92	39.522795246°N	107.609788110°W	
3,300.00	35.15	219.71	2,961.19	-879.96	-818.78	14,363,597.87	904,395.14	39.522670813°N	107.609913869°W	
3,400.00	35.15	219.71	3,042.96	-924.25	-855.57	14,363,553.59	904,358.36	39.522546379°N	107.610039627°W	
3,500.00	35.15	219.71	3,124.72	-968.54	-892.35	14,363,509.30	904,321.57	39.522421946°N	107.610165386°W	
3,600.00	35.15	219.71	3,206.49	-1,012.83	-929.13	14,363,465.01	904,284.79	39.522297512°N	107.610291143°W	
3,700.00	35.15	219.71	3,288.25	-1,057.11	-965.92	14,363,420.72	904,248.00	39.522173078°N	107.610416900°W	
3,800.00	35.15	219.71	3,370.02	-1,101.40	-1,002.70	14,363,376.44	904,211.22	39.522048644°N	107.610542657°W	
3,900.00	35.15	219.71	3,451.78	-1,145.69	-1,039.49	14,363,332.15	904,174.43	39.521924210°N	107.610668413°W	
3,989.54	35.15	219.71	3,525.00	-1,185.35	-1,072.43	14,363,292.49	904,141.49	39.521812786°N	107.610781021°W	
Mesaverde										
4,000.00	35.15	219.71	3,533.55	-1,189.98	-1,076.27	14,363,287.86	904,137.65	39.521799776°N	107.610794169°W	
4,100.00	35.15	219.71	3,615.31	-1,234.26	-1,113.06	14,363,243.57	904,100.86	39.521675342°N	107.610919924°W	
4,200.00	35.15	219.71	3,697.08	-1,278.55	-1,149.84	14,363,199.29	904,064.08	39.521550907°N	107.611045679°W	
4,300.00	35.15	219.71	3,778.84	-1,322.84	-1,186.63	14,363,155.00	904,027.30	39.521426473°N	107.611171434°W	
4,400.00	35.15	219.71	3,860.61	-1,367.13	-1,223.41	14,363,110.71	903,990.51	39.521302038°N	107.611297188°W	

ARK Directional Services
Planning Report - Geographic

RECEIVED

SEP 29 2011

LOGCC

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C13 (111232) - Slot C13
Company:	Antero Resources	TVD Reference:	KB @ 5750.00ft (Original Well Elev)
Project:	McLin	MD Reference:	KB @ 5750.00ft (Original Well Elev)
Site:	McLin C	North Reference:	Grd
Well:	McLin C13 (111232)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C13		
Design:	McLin C13 P02		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,479.32	35.15	219.71	3,925.46	-1,402.26	-1,252.59	14,363,075.58	903,961.33	39.521203337°N	107.611396935°W
Drop 3"/100 at 4479 MD/3925 TVD									
4,500.00	34.53	219.71	3,942.44	-1,411.34	-1,260.14	14,363,066.49	903,953.79	39.521177802°N	107.611422741°W
4,600.00	31.53	219.71	4,026.27	-1,453.27	-1,294.96	14,363,024.57	903,918.96	39.521060005°N	107.611541786°W
4,700.00	28.53	219.71	4,112.83	-1,491.76	-1,326.93	14,362,986.08	903,886.99	39.520951852°N	107.611651084°W
4,800.00	25.53	219.71	4,201.90	-1,526.72	-1,355.96	14,362,951.12	903,857.96	39.520853639°N	107.611750337°W
4,900.00	22.53	219.71	4,293.22	-1,558.04	-1,381.98	14,362,919.80	903,831.94	39.520765636°N	107.611839271°W
4,934.28	21.50	219.71	4,325.00	-1,567.92	-1,390.19	14,362,909.92	903,823.74	39.520737866°N	107.611867335°W
Price Coal									
5,000.00	19.53	219.71	4,386.55	-1,585.64	-1,404.90	14,362,892.20	903,809.02	39.520688084°N	107.611917644°W
5,100.00	16.53	219.71	4,481.63	-1,609.45	-1,424.68	14,362,868.39	903,789.25	39.520621195°N	107.611985240°W
5,200.00	13.53	219.71	4,578.20	-1,629.39	-1,441.24	14,362,848.45	903,772.68	39.520565153°N	107.612041874°W
5,300.00	10.53	219.71	4,675.99	-1,645.42	-1,454.56	14,362,832.42	903,759.36	39.520520112°N	107.612087391°W
5,400.00	7.53	219.71	4,774.74	-1,657.49	-1,464.58	14,362,820.34	903,749.34	39.520486195°N	107.612121667°W
5,500.00	4.53	219.71	4,874.18	-1,665.57	-1,471.29	14,362,812.27	903,742.63	39.520463494°N	107.612144608°W
5,600.00	1.53	219.71	4,974.03	-1,669.64	-1,474.67	14,362,808.20	903,739.25	39.520452073°N	107.612156149°W
5,650.98	0.00	0.00	5,025.00	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
Vertical at 5651 MD/5025 TVD - Top Gas - C13 Top Gas									
5,700.00	0.00	0.00	5,074.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
5,800.00	0.00	0.00	5,174.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
5,900.00	0.00	0.00	5,274.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
6,000.00	0.00	0.00	5,374.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
6,100.00	0.00	0.00	5,474.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
6,200.00	0.00	0.00	5,574.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
6,300.00	0.00	0.00	5,674.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
6,400.00	0.00	0.00	5,774.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
6,500.00	0.00	0.00	5,874.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
6,550.98	0.00	0.00	5,925.00	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
Cameo									
6,600.00	0.00	0.00	5,974.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
6,700.00	0.00	0.00	6,074.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
6,800.00	0.00	0.00	6,174.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
6,900.00	0.00	0.00	6,274.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
7,000.00	0.00	0.00	6,374.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
7,100.00	0.00	0.00	6,474.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
7,200.00	0.00	0.00	6,574.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
7,300.00	0.00	0.00	6,674.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
7,400.00	0.00	0.00	6,774.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
7,500.00	0.00	0.00	6,874.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
7,600.00	0.00	0.00	6,974.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
7,650.98	0.00	0.00	7,025.00	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
Rollins									
7,700.00	0.00	0.00	7,074.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
7,800.00	0.00	0.00	7,174.02	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
7,800.97	0.00	0.00	7,174.99	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W
TD at 7801 MD/7175 TVD									
7,800.98	0.00	0.00	7,175.00	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450603°N	107.612157635°W

ARK Directional Services
Planning Report - Geographic

RECEIVED

SEP 29 2011

BOGCC

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLin C13 (111232) - Slot C13
Company:	Antero Resources	TVD Reference:	KB @ 5750.00ft (Original Well Elev)
Project:	McLin	MD Reference:	KB @ 5750.00ft (Original Well Elev)
Site:	McLin C	North Reference:	Grid
Well:	McLin C13 (111232)	Survey Calculation Method:	Minimum Curvature
Wellbore:	McLin C13		
Design:	McLin C13 P02		

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									
C13 Top Gas	0.00	0.00	5,025.00	-1,670.16	-1,475.11	14,362,807.68	903,738.82	39.520450803°N	107.612157635°W
- plan hits target center									
- Circle (radius 25.00)									

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(ft)	(ft)		(in)	(in)
1,003.00	999.81	Surf Csg at 1003 MD/1000 TVD	5.50	6.00

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
0.00	0.00	Wasatch			
3,989.54	3,525.00	Mesaverde			
4,934.28	4,325.00	Price Coal			
5,650.98	5,025.00	Top Gas			
6,550.98	5,925.00	Cameo			
7,650.98	7,025.00	Rollins			

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
200.00	200.00	0.00	0.00	Build 1"/100 at 200 MD/TVD
800.00	798.90	0.00	-31.39	Build 3"/100 at 800 MD/799 TVD
1,853.72	1,778.64	-239.44	-286.77	Hold 35° at 1854 MD/1779 TVD
4,479.32	3,925.46	-1,402.26	-1,252.59	Drop 3"/100 at 4479 MD/3925 TVD
5,650.98	5,025.00	-1,670.16	-1,475.11	Vertical at 5651 MD/5025 TVD
7,800.97	7,174.99	-1,670.16	-1,475.11	TD at 7801 MD/7175 TVD