

GEOLOGIC & DRILLING PROGNOSIS

Prepared: 05-08-2014 BEP

WELL NAME: GM 531-12
Directional from the pad GM 21-12

STATE: CO **API:** 05-045-22463

COUNTY: GARFIELD

BOTTOM HOLE LOCATION: Sec. 12 T 7S R 96W 10 Acre Fee

TYPE OF UNIT: E/2 Section 12 (320 Acre Unit)

SURFACE HOLE FOOTAGE: 1177' FNL 1906' FWL Sec. 12 T 7S R 96W

BOTTOM HOLE FOOTAGE: 1486' FNL 2522' FEL Sec. 12 T 7S R 96W

SURFACE HOLE XY: 2276836.89 1601335.4

BOTTOM HOLE XY: 2277789.292 1601008.2

FEDERAL EA: NA

HARDLINE: NO; BHL ~170' FWL (HL at 100')

ELEVATION (ft): PAD: 5125
KELLY BUSHING: 5151

RIG INFORMATION:

RIG NAME: Nabors 573
KB HEIGHT (ft): 26

ESTIMATE TOPS:

Formation	TVD	MD	Comments
Wasatch	Surface	Surface	
Top of "G" Sand	1351	1383	
Base of "G" Sand	1451	1488	
Mesaverde	3160	3290	(Water zones may be encountered within the upper portion of the Mesaverde)
Approx. Top Gas	4345	4490	
Cameo Coals	5656	5801	
Rollins SS	6145	6290	
TD	6245	6390	TD well 100 Ft. below top of Rollins

MUD LOGGING (md): 1538 to TD. (One man or computer unit with at least total gas and drill rate.)

LOGGING PROGRAM: Type of Log: Cased-hole Pulsed Neutron log (e.g. RMTE or RPM)
Interval (md): GR from TD to surface
Pulsed Neutron from TD to 200ft above the Mesaverde top (md)

Strap drill pipe by latest trip prior to TD

CSG & CEMENT PROGRAM: SHOE TEST REQUIRED

Conductor:	csq size (in)	depth set at (tvd)	depth set at (md)	hole size (in)	Approximate Cmt (ft3) Tail	Tail Yield ft ³ /Sx	Approx. Sx Tail	Approximate Cmt (ft3) Lead	Lead Yield ft ³ /Sx	Approx. SxLead	WOC (hrs)
Surface:	9 5/8"	1498	1538	13 1/2"	352	2.11	167	550	2.37	232	8
Intermediate:											
Liner or Production:	4 1/2"	6245	6390	8 3/4"	743	1.41	527	405	1.81	224	
					Surface (Sacks): 399		Prod. (Sacks): 751				

Surface cement volumes are calculated w/ 20% excess in gauge hole,
Production cement: tail is calculated to be 300 ft above geologists pick of top of gas, lead TOC is calculated 300 ft above top of MVRD. 10% Excess added.

ANTICIPATED PRESSURES

MASP	Prod Csg Test Pressure	BHP	Pressure (psi)	Prod. Csg. Grade
2,150	7,000	3,123		E/1-80

MUD PROGRAM: (Do not deviate from mud engineer's recommendation without prior consent from Parachute office)

FROM (md)	TO (md)	TYPE MUD	#/GAL	VIS	WL
0	1538	Spud	9.0-9.5	45-50	
1538	6390	LSND	9.0-10.0	40-50	8-10

(Write mud added to system on tour sheets and report all mud mixed and daily cost in morning report)

LOST CIRCULATION: Report depth and bbls of mud lost on morning report and tour sheet - Any severe lost circulation problems should be reported immediately to well supervisor.

SURVEYS: Run every 100' on surface hole and trips unless otherwise instructed.

(note: if there are questions concerning TD or logging, please call Geologist)

WPX Geologists:	Office	Cell	Home
Barb Pickup	303-260-4515	918-606-9605	
Scott Meade		970-260-8131	