United States Environmental Protection Agency

# **Underground Injection Control**

For Official Use Only	
Date Received	
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Permit Number	UNIGHBADAR ENGLISHED BINSALAN GAZLODES ZINGE ERVER EPVER IPP. P. P. P. P.

Permit Application for a Class V Well (Collected under the authority of the Safe Drinking Water Act. Sections 1421, 1422, and 40 CFR Part 144)					COLUMN TO THE PROPERTY OF THE			
	Read Attached Instructions Before Starting							
I. Owner Name, Address	I. Owner Name, Address, Phone Number and/or Email  II. Operator Name, Address, Phone Number and/or Email							
Montalban Oil & Gas Operations, Inc 33 - 1st Avenue SW Cut Bank, Montana 59427 (406) 873-2845 montemontalban@gmail.com			33 - 1st Cut Bar (406) 87	oan Oil & Gas ( Avenue SW ık, Montana 59 73-2845 oontalban@gma	427	ns, Inc		
III. Commercial Facility	IV. Ownership	V. Permit Action Requested	<b>保持</b> 第4		V	/I. SIC Code(s)	VII. Indian Country	
X Yes	Private Federal State/Tribal/ Municipal	New Permit Permit Renewal Modification Add Well to Area Permi			The state of the s	Non Classified	Yes X No	
VIII. Type of Permit (For I	nultiple wells, use ad	ditional page(s) to provide the	information r	equested for eac	ch additio	onal well)	The American	
A. Individual Numb	Targett of the same of the sam	ield and/or Project Names Field UIC Class II Well Co	nversion (Jo	dy Field 34-1 a	nd Jody	Field 34-2)		
IX. Class and Type of W	ell (see reverse)		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)				2 186. (民主主教)	
A. Class B. Type (ente	r code(s)) C. If type	code is "X," explain.						
X. Well Status			XI. Well Info	rmation				
A. Operating Date Injection Started 08/16/2011	B. Conversion Date Well Constr	C. Proposed		PA ID) Number	25-073-2 MT5282 Jody Fie			
XII. Location of Well or,	for Multiple Wells, A	pproximate Center of Field o	r Project				推译 经产品产品	
Locate well in two directions from nearest lines of quarter section and drilling unit  Surface Location  SW 1/4 of SW 1/4 of Section 34 Township 29N Range 6W  Longitude 112°22'16" W  330 ft. from (N/S) S Line of quarter section  [2310 ft. from (E/W) W Line of quarter section.								
XIII. Attachments								
In addition to this form, complete Attachments A-U (as appropriate for the specific well class) on separate sheets. Submit complete information, as required in the instructions and list all attachments, maps or other figures, by the applicable letter.								
XIV. Certification								
I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR § 144.32)								
Patrick M. M.	arra ratio anno associate (la marcha programa e program	t) Signature	all			Date Signed 10/11/2	22	

Approval Expires 4/30/2022

United States Environmental Protection Agency

# Underground Injection Control

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For Offic	cial Use O	nly		
Date Re	ceived	Commence of the Commence of th		
	WATER STREET	9		
Permit N	Number	sometriconnector of the section of	COSS-SPECIAL SECURITION SECURITIONS AND ADMINISTRATION OF THE PROPERTY OF THE	

Sections 1431, 1432, and 40 CFP part 1449  Read Attached Instructions Before Starting  1. Operator Name, Address, Phone Number and/or Email  1. Operator Nam	Permit Application for a Class V Well  (Collected under the authority of the Safe Orinking Water Act			Permit Number		
II. Operator Name, Address, Phone Number and/or Email   III. Operator Name, Address, Phone Number and/or Email   Montalbam Oil & Gas Operations, Inc   33 - 1st Avenue SW   Cut Bank, Montans 9427   (460) \$73-2845   (460) \$73-2	3/11/	(Collec				
Montalban Oil & Gas Operations, Inc 33 - 1st Avenue SW Cut Bank, Montana 99427 (4406) \$73-2845 montermontalban@gmail.com  III. Commercial Facility IV. Ownership  V. Permit Action Requested  VII. Status  Non Classified  VIII. Type of Permit (For multiple wells, use additional page(s) to provide the information requested for each additional well)  A Individual  Non Classified  VIII. Type of Permit (For multiple wells, use additional page(s) to provide the information requested for each additional well)  A Individual  Non Classified  VIII. Type of Permit (For multiple wells, use additional page(s) to provide the information requested for each additional well)  A Individual  Non Classified  Ves  Ves  Non Classified  Ves  Non Classified  Ves  Ves  Non Classified  Ves  No			Read Attached Instru	uctions Before Startin	g	
33 - 1st Avenue SW   Cut Bank, Montana 59427 (406) 873-2845   montemontalban@gmail.com   Will. Commercial Facility   V. Ownership   V. Permit Action Requested   Vi. SiG Code(s)   Vil. Indian Country   Vil. Type of Permit (For multiple wells, use additional page(s) to provide the Information requested for each additional well)   Viii. Type of Permit (For multiple wells, use additional page(s) to provide the Information requested for each additional well)   Viii. Type of Permit (For multiple wells, use additional page(s) to provide the Information requested for each additional well)   Viii. Type of Permit (For multiple wells, use additional page(s) to provide the Information requested for each additional well)   Viii. Type of Permit (For multiple wells, use additional page(s) to provide the Information requested for each additional well)   Viii. Type of Permit (For multiple wells, use additional page(s) to provide the Information requested for each additional well)   Viii. Type of Permit (For multiple wells, use additional page(s) to provide the Information requested for each additional well)   Viii. Type of Permit (For multiple wells, use additional page(s) to provide the Information requested for each additional well)   Viii. Type of Permit (For multiple wells, Use additional page(s) to provide the Information requested for each additional well)   Viii. Additional page(s)   Viii. Type of Permit (For Permit Permit (or EPA ID) Number   Viii. Attachment   Viiii. Attachment   Viiii. Attachment   Viiii. Attachment   Viiii. Attach	I. Owner Name, Address	, Phone Number and	or Email	II. Operator Name, Addr	ess, Phone Number and/o	or Email
Non Classified   Yes	33 - 1st Avenue SW Cut Bank, Montana 59 (406) 873-2845	9427		33 - 1st Avenue SW Cut Bank, Montana 59 (406) 873-2845	9427	
Non Classified   Permit Renewal   Modification   Add Well to Area Permit   Other	III. Commercial Facility	IV. Ownership	V. Permit Action Requested		VI. SIC Code(s)	VII. Indian Country
A. Individua   Number of Wells   2	[managed]	Federal State/Tribal/	Permit Renewal Modification Add Well to Area Permit		Non Classified	Samparel
IX. Class and Type of Well (see reverse)   IX. Class and Type of Well (see reverse)	VIII. Type of Permit (For	multiple wells, use ac	Iditional page(s) to provide the	information requested for ea	ch additional well)	<b>计域性制度标识</b>
A. Class B. Type (enter code(s))  V  J  X. Well Status  XI. Well Information  XI. Well Information  API Number 25-073-21838  Permit (or EPA ID) Number 609/08/2008  API Number 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2	Commence of the second	TO THE OWNER OF THE PARTY OF TH	nversion (Jody Field 34-1 a	and Jody Field 34-2)	
XI. Well Information  API Number 25-073-21838  Permit (or EPA ID) Number MT5253  [03/15/2010	IX. Class and Type of W	/ell (see reverse)				的 自由 自由 使 其 是 使 其 是 使 所 是 使 所 是 的 是 。 是 的 是 。 。 是 。 。 。 。 。 。 。 。 。 。 。 。 。
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Date Injection Started  03/15/2010  Date Well Constructed  09/08/2008  Permit (or EPA ID) Number Full Well Name  Permit (or EPA ID) Number Full Well Name  In addition to this form, complete Attachments  In addition to this form, complete Attachments A-U (as appropriate for the specific well class) on separate sheets. Submit complete information, as required in the instructions and list all attachments, maps or other figures, by the applicable letter.  XIV. Certification  I certify under the penalty of law that I have personally examined and am familiar with the information, submitted in this document and all attachments and that, based on my inquiry of those individuals immediately perpensible for obstating the information, including the possibility of fine and imprisonment. (Ref. 40 CFR § 144.32)  Name and Official Title (Please Type or Print)  Signature  Permit (or EPA ID) Number MT5253 Full Well Name  ATTS ATTS ATTS ATTS ATTS ATTS ATTS ATT	X. Well Status			XI. Well Information		<b>米</b> 整研發短途
Locate well in two directions from nearest lines of quarter section and drilling unit  Surface Location  NW 1/4 of SW 1/4 of Section 34 Township 29N Range 6W  Longitude 112°22'36" W  2310 ft. from (N/S) S Line of quarter section  990 ft. from (E/W) W Line of quarter section.  XIII. Attachments  In addition to this form, complete Attachments A-U (as appropriate for the specific well class) on separate sheets. Submit complete information, as required in the instructions and list all attachments, maps or other figures, by the applicable letter.  XIV. Certification  I certify under the penalty of law that I have personally examined and an familiar with the information, submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR § 144.32)  Name and Official Title (Please Type or Print) Signature  Date Signed	Date Injection Started	Date Well Consti	Longraphic	Permit (or EPA ID) Number	MT5253	
Surface Location  NW 1/4 of SW 1/4 of Section 34 Township 29N Range 6W  2310 ft. from (N/S) S Line of quarter section  990 ft. from (E/W) W Line of quarter section.  XIII. Attachments  In addition to this form, complete Attachments A-U (as appropriate for the specific well class) on separate sheets. Submit complete information, as required in the instructions and list all attachments, maps or other figures, by the applicable letter.  XIV. Certification  I certify under the penalty of law that I have personally examined and am familiar with the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR § 144.32)  Name and Official Title (Please Type or Print)  Signature  Date Signed	XII. Location of Well or,	, for Multiple Wells, A	Approximate Center of Field or	r Project		
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reme and officer has proceeding	and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibliity of fine and					
Patrick M Montalban 10/11/22		CANADA CA	nt) Signature	~oft/		/11/22

Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

# Attachment A Map(s) and Area of Review

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Groundwater Information Center (GWIC)	3
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- Figure 02. Topographic Map
- Figure 03. Jody Field 34-1 Well Schematic
- Figure 04. Jody field 34-2 Well Schematic

### **EXHIBITS**

Exhibit A. Montana BOGC Well Record

### 1. WELL LOCATIONS (40CFR § 144.3)

Montalban Oil & Gas Operations, Inc (Montalban) is submitting this area-wide underground injection control (UIC) permit application to USEPA Region 8 for conversion of two (2) existing Class II UIC wells and two (2) shut-in oil and gas wells to Class V UIC wells. The wells will be used for injection of industrial wastewater received from the Montana Renewables Fuels Refinery in Great Falls, Montana. The wells are located in the Loneman Coulee Oil Field north of Great Falls in Pondera County, Montana (**Figure 01**).

This application involves a phased approach with initial conversion of the two existing Class II wells and subsequent conversion of the two shut-in oil and gas wells, at a later date, to accommodate future wastewater volumes from the refinery.

The wells included in this area-wide application are listed in **Table 1** below. Wellbore schematics for Jody Field Wells 34-1 and 34-2 are included in **Figures 03 and 04**, respectively.

TABLE 1. Area-Wide Permit Application UIC Wells							
Well Name	API#	Well Owner	Well Operator	Well Coordinates	Well Depth (ft)	Injection Formation	Injection Interval (ft bls)
Jody Field	25-	Montalban	Montalban	48°13′31″ N	3,538	Madison/	3,428-
34-1	073-			112°22'26" W		Sun River	3,538
	21830					Dolomite	
Jody Field	25-	Montalban	Montalban	48°13′22″ N	3,499	Madison/	3,418-
34-2	073-			112°22'16" W		Sun River	3,499
	21838					Dolomite	
Jody Field	25-	Montalban	Montalban	48° 13'29'' N	3,415	Madison/	TBD
14-34	073-			112° 22'27''		Sun River	
	21740			W		Dolomite	
Jody Field	25-	Montalban	Montalban	48° 13'16'' N	3,462	Madison/Su	TBD
4-1A	073-			112° 22'29''		n River	
	21842			W		Dolomite	

As illustrated on **Figure 01**, the area-wide UIC permit boundary was drawn to include the proposed Class V UIC wells within the Loneman Coulee Field. The GIS coordinates of each corner of the area-wide permit boundary are as follows.

TABLE 2. Area Wide UIC Permit Boundary GIS Coordinates							
Corner	Y Coordinate						
NorthWest	-12510984.7968	6145834.8807					
NorthEast	-12508131.2437	6145842.5415					
SouthEast	-12508123.1499	6142827.6853					
SouthWest	-12510976.7030	6142820.0245					

# 2. AREA OF REVIEW SIZE DETERMINATION (40 CFR § 146.6)

An Area of Review (AoR) was established for the area-wide permit based on a delineated radius of 1/2 mile from the mapped area-wide boundary (Figure 01).

### 3. MAP(S) (40 CFR § 144.31)

**Figure 02** includes a topographic map extending over one mile beyond the proposed project boundary. The Figure indicates the location of the proposed Class V injection wells, the area-wide UIC permit boundary, and the applicable AoR. The following features were not found, or known to be within, the mapped AoR:

- outcrops of injection and confining formations;
- surface water intake and discharge structures;
- hazardous waste treatment, storage, or disposal facilities;
- mines (surface and subsurface) and quarries; or
- · residences, schools, and hospitals.

Within the extended topographic map area there are six (6) water wells documented, including one within the AoR (**Figure 02**). Details obtained from the MBMG GWIC database regarding the nearby water wells are included in **Table 3**.

TABLE 3. Water Wells Within the Topographic Map Area – Source: Montana Groundwater Information Center (GWIC)

Well Owner Information	Aquifer	Date Completed	Well ID and Use	Well Depth (ft)	Static Water Level (ft)
Allen, John E.	Sandstone	1/1/1962	#83374 -	207	160
Valier, MT 59486	Unit		Agricultural		
Fed Land Bank 1	Unknown	Unknown	#915142 - NA	Unknown	Unknown
Allen 1	Unknown	Unknown	#915479 – NA	Unknown	Unknown
Pondera County Canal	Unknown	1/1/1912	#83372 -	Unknown	13
& Reservoir Co.			Domestic		
Valier, MT 59486					

TABLE 3. Water Wells Within the Topographic Map Area- Source: Montana Groundwater Information Center (GWIC)

Well Owner Information	Aquifer	Date Completed	Well ID and Use	Well Depth (ft)	Static Water Level (ft)
Field, C.W. Jr.	Unknown	1/19/1953	81476	109	17
Valier, MT 59486					
Fields CW *8 Mi SW	Two	Unknown	#6412	90	Unknown
Valier Montana	Medicine		Domestic/		
	Formation		Stockwater		

# 4. PART IV. AREA OF REVIEW WELLS AND CORRECTIVE ACTION PLANS (40 CFR § 144.55)

The wells located within the AoR that penetrate the confining zones for the proposed Class V UIC wells are listed in **Table 4** below. These wells include oil and gas wells that are either plugged and abandoned (approved by the Montana BOGC) or shut-in.

TABLE 4. Wells Penetrating the Proposed Confining Zone							
Well Name or Type	API or Water Well #	Well Owner	Well Location	Well Depth (ft)	Formation	Well Status	
Field 1-34A	25-073- 21609	AltaMont Oil & Gas, Inc.	29N - 6W - 34 NW SW 1700 FSL, 1300 FWL	3,485	Madison	P&A Approved	
Field 14-34	25-073- 21740	Montalban Oil & Gas Operations, Inc.	29N - 6W - 34 SE SW 990 FSL, 1650 FWL	3,415	Madison	Shut-in	
Jody Field 4-1	25-073- 21824	AltaMont Oil & Gas, Inc.	28N - 6W - 04 NE NE 330 FNL, 430 FEL	3545	Madison	P&A Approved	
Jody Field 4-1A	25-073- 21842	Montalban Oil & Gas Operations, Inc.	28N - 6W - 04 NE, 330 FNL, 380 FEL	3,416	Sawtooth	Shut-in	

The BOGC well records were researched to determine the availability of construction details, cement bond logs and records of well completion and plugging for each of the above oil and gas wells. The findings are presented in **Table 5** and included in Exhibit A.

TABLE 5. BOGC Oil and Gas Well Records							
Well	Construction Details	Cement Bond Logs	Record of Well Completion	P&A Records	Confining Unit Penetrated		
Field 1-34	Exhibit A	Not Available	Exhibit A	Exhibit A	Jurassic Ellis Group (above Mississippian Madison Aquifer)		
Field 14-34	Exhibit A	Exhibit A	Exhibit A	Shut-in	Jurassic Ellis Group (above Mississippian Madison Aquifer)		
Jody Field 4-1	Exhibit A	Exhibit A	Exhibit A	Exhibit A	Jurassic Ellis Group (above Mississippian Madison Aquifer)		
Jody Field 4-1A	Exhibit A	Not Available	Exhibit A	Shut-in	Jurassic Ellis Group (above Mississippian Madison Aquifer)		

# 5. PART V. LANDOWNER INFORMATION (40 CFR § 144.31 AND PART 147)

The UIC wells are located within the Loneman Coulee Oil Field in Pondera County, Montana. The land within the requested exemption area is used for oil and gas related activities and agriculture. The identities of the landowners within the AoR are provided in **Figure 01** and detailed in **Table 6** below.

TABLE 6. Landowner	rs Within the Aquifer Exe	mption Area	
Landowner	Owner Address	Parcel #	Use
Field, Jody	5353 Range View Rd. Valier, MT 59486	26-4096-34-4-04-01-0000	Agricultural
Vandenbos, William D & Tamara K JTRos	453 Frances Heights Rd. Valier, MT 59486	26-4096-33-4-01-01-000	Agricultural
Vandenbos, Keith E & Leiha R. JTRos	2475 Seven Block Rd. Valier, MT 59486	26-4096-33-1-01-01-0000	Agricultural
Field, Jody	5353 Range View Rd. Valier, MT 59486	26-4096-34-2-03-03-0000	Agricultural
Field, Jody	5353 Range View Rd. Valier, MT 59486	26-4096-34-1-03-01-0000	Agricultural
Field Ranch Inc.	5353 Range View Rd. Valier, MT 59486	26-3984-03-2-02-02-0000	Agricultural
Field Ranch Inc.	5353 Range View Rd, Dupuyer, MT 59432	26-3984-04-1-01-01-0000	Agricultural
Field Ranch Inc.	5353 Range View Rd. Valier, MT 59486	26-3984-04-2-02-01-0000	Agricultural

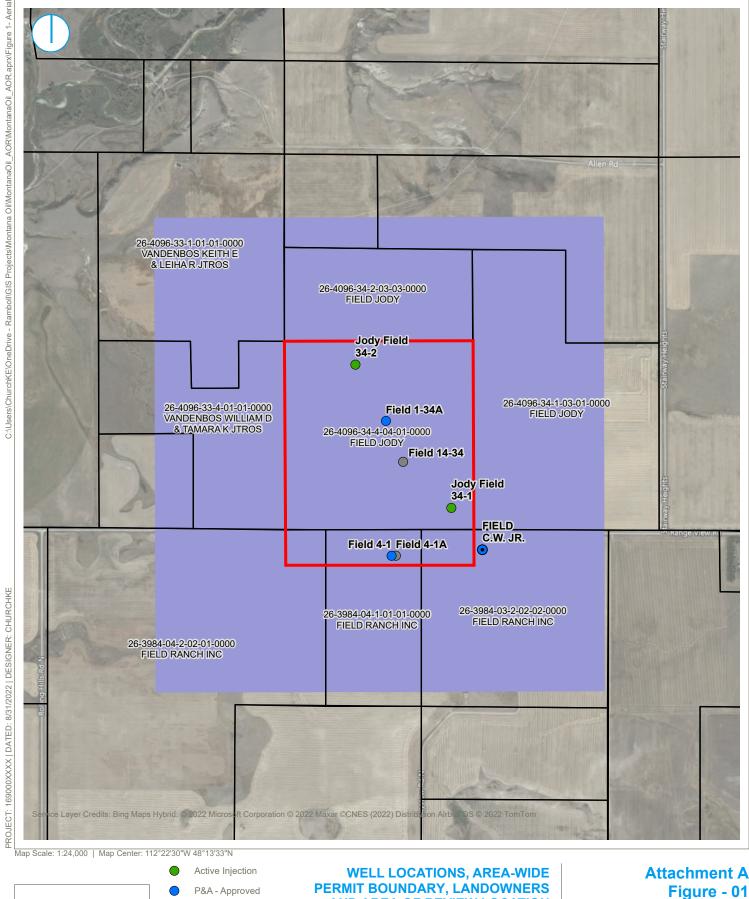
TABLE 6. Landowner	rs Within the Aquifer Exe	mption Area	
Landowner	Owner Address	Parcel #	Use
Vandenbos, William D	453 Frances Heights Rd.	26-4096-33-4-01-01-000	Agricultural
& Tamara K JTRos	Valier, MT 59486		

### **FIGURES**

Figure 01. Well Locations, Area-Wide Permit Boundary and Area of Review Location

Figure 02. Topographic Map

Figure 03. Jody Field 34-1 Well Schematic Figure 04. Jody Field 34-2 Well Schematic



# 0

KEY MAP (not to scale)

Shut In

Water Well Location

Parcel Boundaries

Area of Review (AOR) 0

1,000

2,000

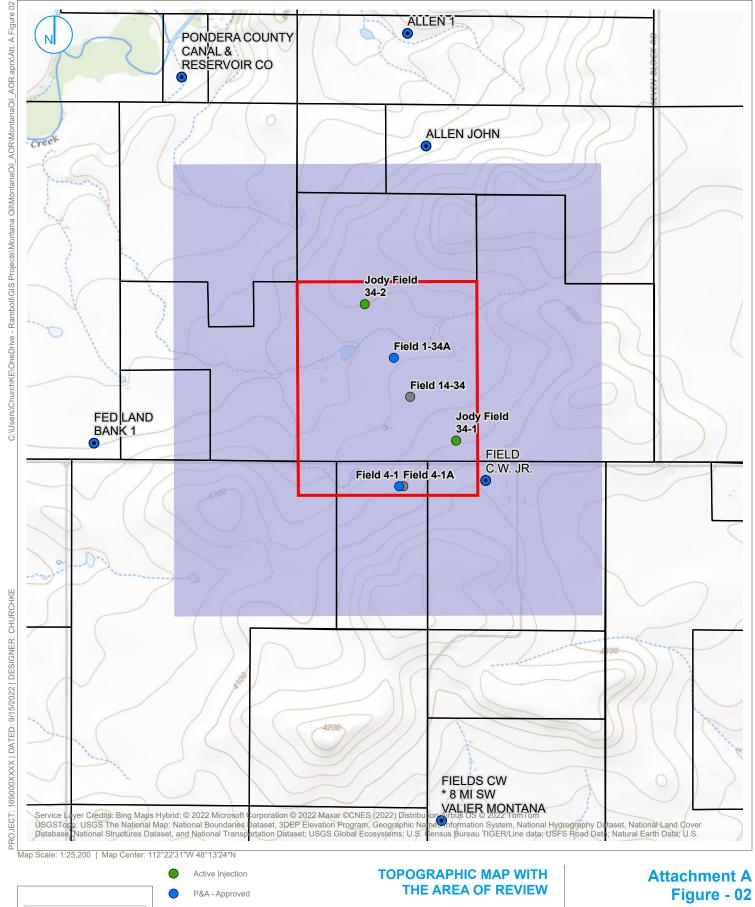
Area- Wide UIC

**PERMIT BOUNDARY, LANDOWNERS** AND AREA OF REVIEW LOCATION

> **MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE UIC APPLICATION JODY FIELD WELLS**

#### RAMBOLL US CONSULTING, INC. A RAMBOLL COMPANY

RAMBOLL



RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY



P&A - Approved

Shut In

Water Well Location

Parcel Boundaries

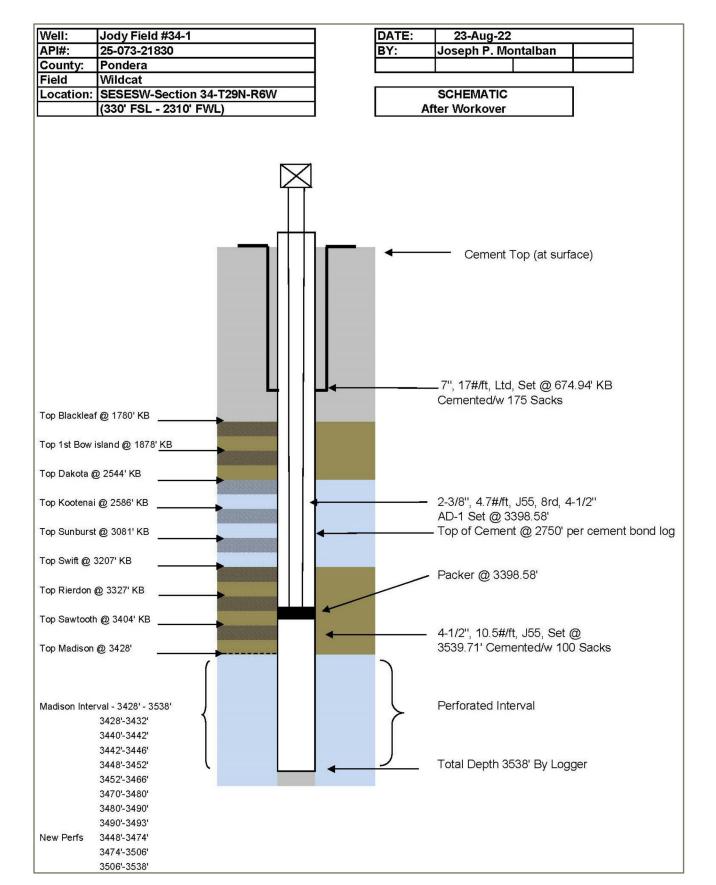
Area- Wide UIC

KEY MAP (not to scale)

Area of Review (AOR)

MONTALBAN OIL AND GAS
OPERATIONS INC - AREA WIDE
AQUIFER EXEMPTION
APPLICATION
JODY FIELD WELLS

0 1,050 2,100 Feet





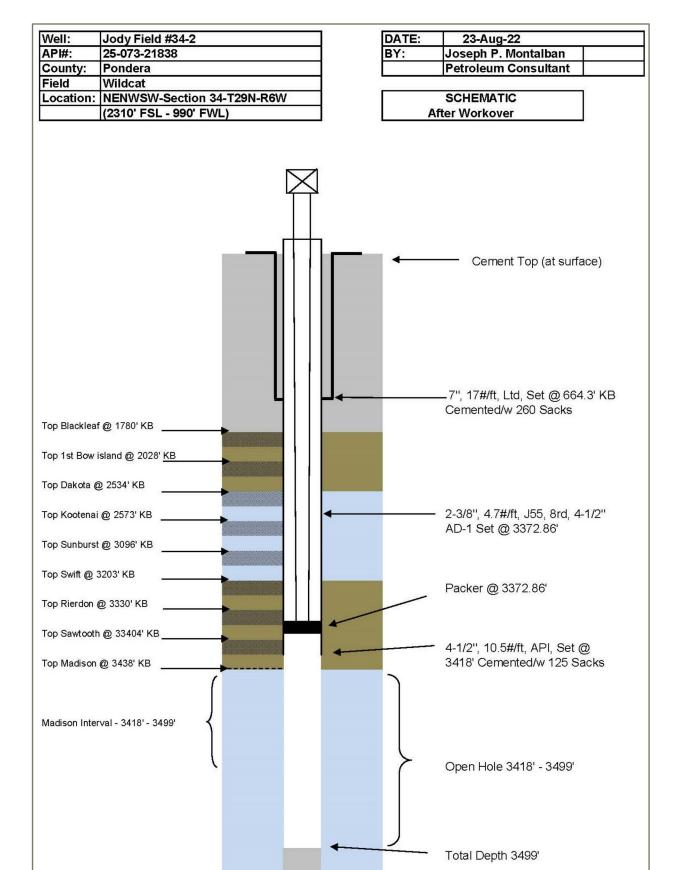
### WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-1

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS



RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY







### WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-2

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS



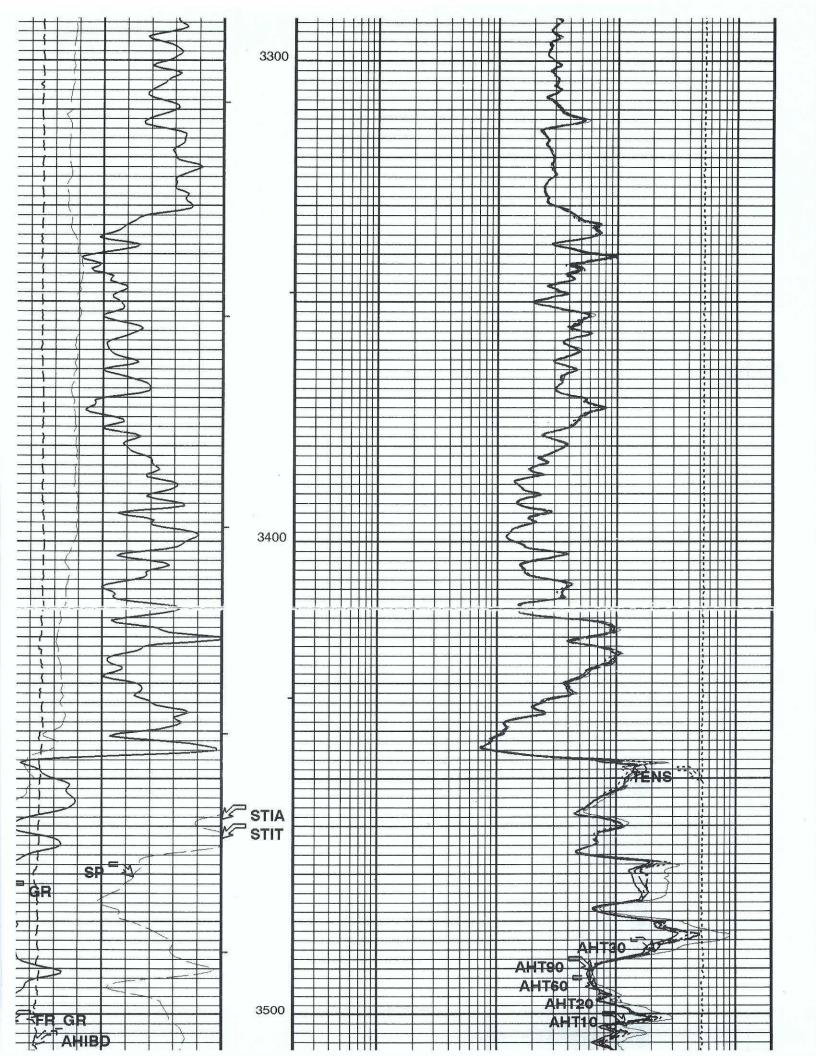
RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY

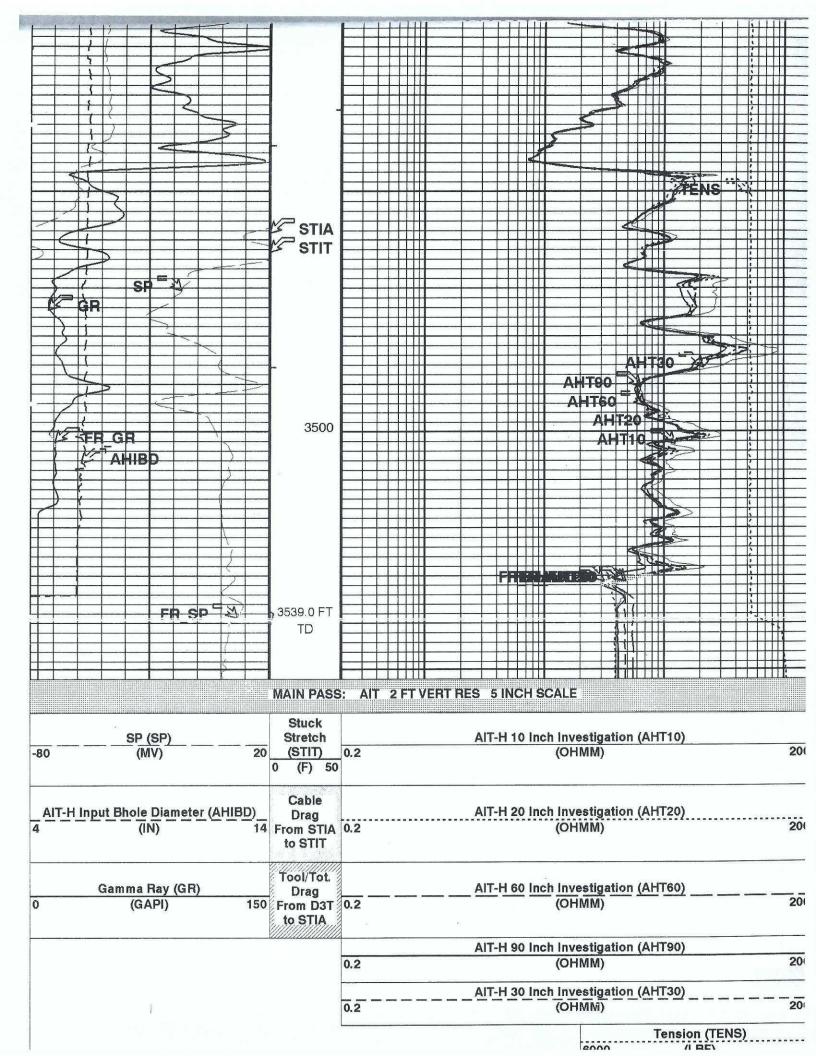


### **EXHIBIT A**

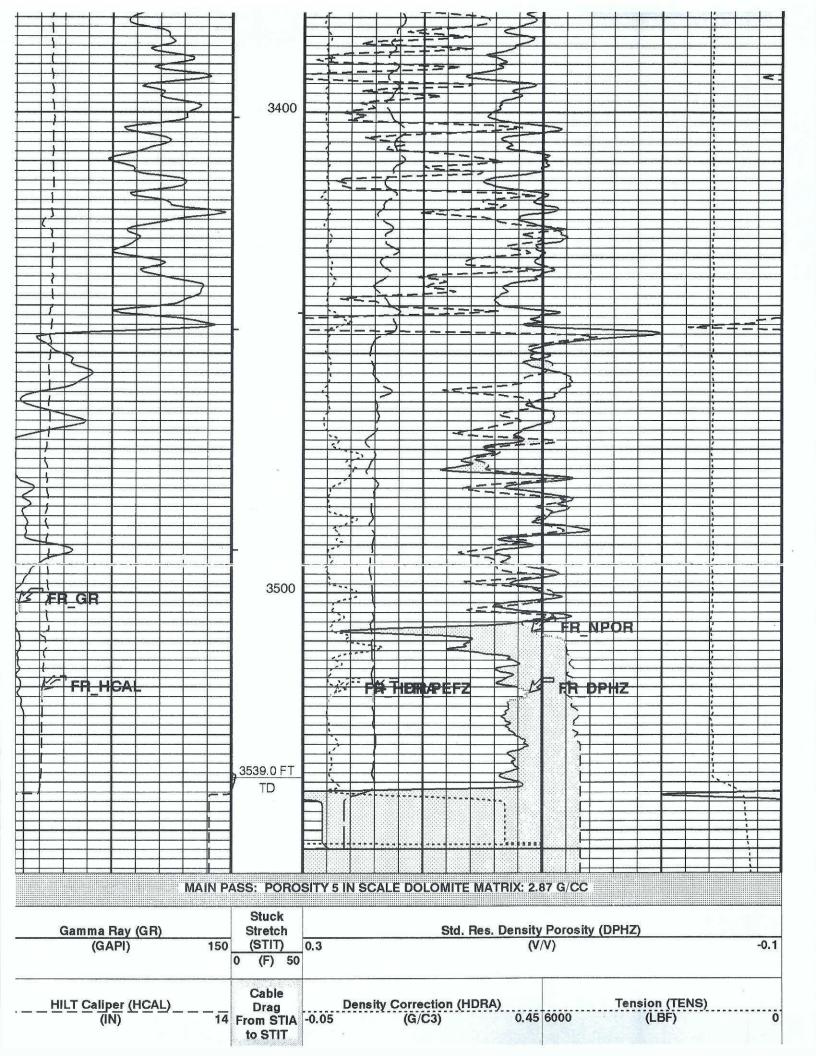
Montana BOGC Well Records

Company:   ALTAMIONT OIL & GAS; INC.			mber Location	Unit Number			, MH	7021 CHINOOK MT	Incation	Unit Number
Company: ALTAMONT-OIL & GAS, INC.   Well: JODY FIELD 4-1   Field: WILDCAT   State: MONTANA   State: MONTAN				Logger(			16:50	17-Nov-2007	Time	Logger On Bottom
Company: ALTAMONTOIL & GAS, INC.   Well: JODY FIELD 4-1			on Stopped Time	Circulation				17-Nov-2007	Time	Circulation Stopped
Company: ALTAMONT-OIL & GAS, INC.   Well: JODY FIELD 4-1		(	m Recorded Temperatures	Maximur	3.5			69 degF	Temperatures	Maximum Recorded
Company: ALTAMONT-OIL & GAS; INC:   Well: JODY FIELD 4-1   Field:   Will.DCAT   State:   MONTANA     Will.DCAT   State:   MONTANA   Will.DCAT   St	0	@		RM @ M	@	@	@		AMF @ MRT	
Company: ALTAMONTOIL & GAS, INC:   Well:   JODY FIELD 4-1   Field:   WILDCAT   State: MONTANA   WOUNTANA   WILDCAT   State: MONTANA   WOUNTANA   WILDCAT   State: MONTANA   WILDCAT   State: MONTANA   WILDCAT   State: MONTANA   WILDCAT   WILDCAT   State: MONTANA   WILDCAT   W			RMF RMC	Source			ALCULATED		RMC	Source RMF F
Company: ALTAMONT-OIL & GAS; INC:   Well: JODY FIELD 4-1     Field: Wil.DCAT   State: MONTANA     Field: Will.DCAT   State: MONTANA     Fi	@		Measured Temperature	RMC @	@				emperature	RMC @ Measured T
Company: ALTAMONT OIL & GAS, INC.   Well: JODY FIELD 4-1     Field: WILDCAT   Field To	@		Measured Temperature	RMF @	@				emperature	HMH @ Measured T
Compeny: ALTAMONT-OIL & GAS, INC.   Well: JODY FIELD 4-1	@		leasured Temperature	RM @ M	@		69		mperature	RM @ Measured Te
Company:   ALTAMONT OIL & GAS, INC.     State:   MONTANA			Of Sample					FLOWLINE		
Company:   ALTAMONT OIL & GAS, INC.   State:   MONTANA				T			0			Fluid Loss
Company:   ALTAMONT-OIL & GAS, INC.   Spinitification   Spinitif				-			45		Viscosity	Density
Company:   ALTAMONT OIL & GAS, INC.   Well:   JODY FIELD 4-1     State:   MONTANA     MONTANA   MONTAN			aid In Hole	Type Flu				/ATER G		10000
Company:   ALTAMONT OIL & GAS, INC.   Well:   JODY FIELD 4-1   VILDCAT   State:   MONTANA   **PLATFORM EXPRESS**   ARRAY INDUCTION TOOL   Set of the control of the contr				Bit Size				6.250 in		BIT SIZE
Company:   ALTAMONT-OIL & GAS, INC.     Significant   Si			Schlumberger	Casing t				894 ft	ter	Casing Schlumberg
Company:   ALTAMONT-OIL & GAS, INC.     Significant   State:   MONTANA     State:   MONTANA   State:   MONTANA     State:   MONTANA     State:   MONTANA     State:   MONTANA     State:   MONTANA     State:   MONTANA     State:   MONTANA     State:   MONTANA     State:   MONTANA     State:   MONTANA     State:   MONTANA     State:   MONTANA     State:   MONTANA     State:   MONTANA     State:   MONTANA   St	@		Driller Size @ Depth	Casing	@			5	@ Liepth	Casing Driller Size
Company:   ALTAMONT-OIL & GAS, INC.     Significant   Si			Interval	Top Log					) יכ	l op Log Interval
Company:   ALTAMONTOIL & GAS, INC.     Significant   Sig			Log Interval	Bottom				3531 ft		Bottom Log Interval
Company:   ALTAMONT OIL & GAS, INC.   State:   MONTANA			berger Depth	Schlum				3539 ft	5	Schlumberger Dept
Company:   ALTAMONT OIL & GAS, INC.   Well:   JODY FIELD 4-1			hiller	Depth D				3545 ft		Depth Driller
Company:   ALTAMONT-OIL & GAS, INC.   Well:   JODY FIELD 4-1			mber	Run Nut						Hun Number
Company:   ALTAMONT OIL & GAS, INC.   Well:   JODY FIELD 4-1			Date	Logging				17-Nov-2007		Logging Date
Company: ALTAMONT OIL & GAS, INC.  Well: JODY FIELD 4-1 Field: WILDCAT County: PONDERA  ***PLATFORM EXPRESS** ARRAY INDUCTION TOOL  WILDCAT State: MONTANA  ***PLATFORM EXPRESS** ARRAY INDUCTION TOOL  WILDCAT  NENDE SEC 4, 128N, R6W SHL: 330' FNL & 430' FEL  Drilling Measured From: KELLY BUSHING  API Serial No. Section Township Range  Run 1  State: MONTANA  ***PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  ### County: PONDERA  ***PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  ### County: MONTANA  ***PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  ### County: KB. 4075 ft					6W	28N	4	-21824	25-073	. Fi
Company: ALTAMONT-OIL & GAS, INC.  Well: JODY FIELD 4-1 Field: WILDCAT County: PONDERA  **PLATFORM EXPRESS** ARRAY INDUCTION TOOL  **PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  State: MONTANA  **PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  SHL: 330*FNL & 430*FEL  Log Measured From: KELLY BUSHING  Drilling Measured From: KELLY BUSHING  5.0 ft above Perm. Datum  SCHIUMIBUSHING  Formanent Datum: GROUND LEVEL  Dr. 4070 ft Dr. 4070 ft Dr. 4070 ft Dr. 4074 ft Dr. 4074 ft Dr. 4070 ft Dr. 4074 ft Dr. 4074 ft Dr. 4074 ft Dr. 4070 ft Dr. 4074					Range	Township	Section	rial No.	API Sei	eld: ocat ell:
Company: ALTAMONT OIL & GAS, INC.  Well: JODY FIELD 4-1 Field: WILDCAT County: PONDERA  **PLATFORM EXPRESS** ARRAY INDUCTION TOOL  ARRAY INDUCTION TOOL  SHL: 330'FNL & 430' FEL  Log Measured From: KELLY BUSHING  50 ft above Perm. Datum  KELLY BUSHING  SCHIUmibgriggr  Run 1  Schilumibgriggr  Run 1			en.				BUSHING	1	Drilling Measur	ion:
Company: ALTAMONT-OIL & GAS, INC.  Well:  JODY FIELD 4-1  Field:  WILDCAT  County:  PONDERA  ***PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  ARRAY INDUCTION TOOL  SILE DATA  NENENE SEC 4, T28N, R6W  SHL: 330"FNL & 430"FEL  Permanent Datum:  GROUND LEVEL  Bev.: KB. 4075 ft  GL. 4070 ft  D.F. 4074 ft  D.F. 4074 ft  D.F. 4076 ft					e Perm. Datum		BUSHING	Y	70.70	ν Ν Α ;
Company: ALTAMONT-OIL & GAS, INC.  Well:  JODY FIELD 4-1  Field:  WILDCAT  County:  PONDERA  **PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  **PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  **BL: 330*FNL & 430*FEL  OF. 4074ft  Bev.: K.B. 4075ft  OF. 4074ft  DF. 4074ft					Ħ	Ť	ND LEVEL	ľ.		VILE NEN IOD'
Company: ALTAMONT OIL & GAS, INC.  Well:  JODY FIELD 4-1  Field:  WILDCAT  County:  PONDERA  ***PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  ***PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  State: MONTANA  ***PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  SHL: 330' FNL & 430' FEL  Bev.: KB. 4075 ft  GL. 4070 ft					4074 ft	D.F.				CA ENE Y FI IMC
pany: ALTAMONT OIL & GAS, INC.  JODY FIELD 4-1 WILDCAT PONDERA  **PLATFORM EXPRESS** ARRAY INDUCTION TOOL  NENERE SEC 4, T28N, R6W  Bev.: K.B. 4075 ft					4070 ft	G.L.		& 430' FEL		T E SI ELI
Pany: ALTAMONT OIL & GAS, INC.  JODY FIELD 4-1 WILDCAT PONDERA  ***PLATFORM EXPRESS** ARRAY INDUCTION TOOL  NEVERNE SECATION NOW  Run 1  State: MONTANA  ***PLATFORM EXPRESS** ARRAY INDUCTION TOOL					4070 ft			8 4201 [[]	מבוי מסטוראוו	D 4
pany: ALTAMONT OIL & GAS, INC.  JODY FIELD 4-1 WILDCAT PONDERA ***PLATFORM EXPRESS** ARRAY INDUCTION TOOL					4075 ft			4. T28N. R6W	NENENE SEC	1-1
Schlumberger  Pany: ALTAMONT OIL & GAS, INC.  JODY FIELD 4-1 WILDCAT PONDERA  **PLATFORM EXPRESS** ARRAY INDUCTION TOOL  State: MONTANA  **ARRAY INDUCTION TOOL										
Schlumberger  Pany: ALTAMONT OIL & GAS, INC.  JODY FIELD 4-1 WILDCAT PONDERA  **PLATFORM EXPRESS**  **PLATFORM EXPRESS**								DOCTION	AND AND IN	
Dany: ALTAMONT OIL & GAS, INC.  JODY FIELD 4-1  WILDCAT PONDERA State: MONTANA  **PLATFORM EXPRESS**							₫	DI IOTION TO	ABBAV IN	
pany: ALTAMONT OIL & GAS, INC.  JODY FIELD 4-1  WILDCAT PONDERA  State: MONTANA							S**	ORM EXPRES	**PLATFO	
pany: ALTAMONT OIL & GAS, INC.  JODY FIELD 4-1  WILDCAT  BONDERA  State: MONTANIA				Eq.	Y	INCINIA	טומום	ז 	- 014061	المراباتين
pany: ALTAMONT OIL & GAS, INC.  JODY FIELD 4-1  WILDCAT  Schlumberger  S						MONTA	2+0+0	Λ		Colinty:
Dany: ALTAMONT OIL & GAS, INC.  JODY FIELD 4-1									WILDCA:	Field:
pany: Altamont oil & Gas, Inc.								ILU 4-1	JUDY FII	VVCII.
ALTAMONT OIL & GAS, INC.  Schlumberger  Schlumberger										\\/\ <u>\</u>  .
ALTAMONT OIL & GAS. INC.										
Run 1			•				AS, INC.	NT OIL & G	ALTAMO	Company:
Run 1					•					
Run 1						بر ا ا				
	Run 2	Run 1								

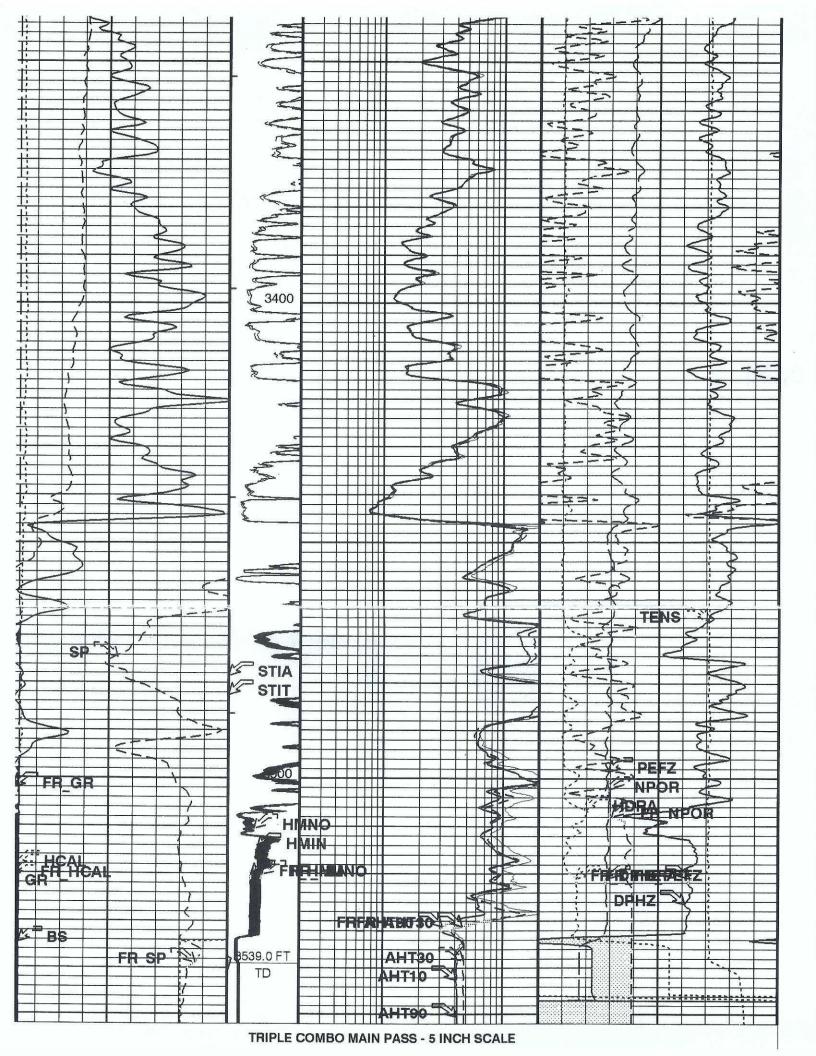




					:			]		
				Schlun	Schlumberger			Hun 1	Run 2	
					•					
Company:	ALTAMO	DNT OIL &	ALTAMONT OIL & GAS, INC.							
									*	
Well:	JODY FIELD 4-1	ELD 4-1								
	WILDCAT	7								
.y:	PONDERA	RA.	State	State: MONTANA	NA A					
Э	**PLATF(	**PLATFORM EXPRESS**	1000							
3, IN	COMPEN	COMPENSATED NEUTRON	UTRON							
T28N k GAS	THREE D	ETECTOR	THREE DETECTOR LITHODENSITY	Ĭ						
1-1 01L 8	NENENE SEC	NENENE SEC 4. T28N R6W		Flev KR	4075 ft					
SEC LD (	SHL: 330' FNL & 430' FEL	L & 430' FEL			4070 ft					
CAT ENE ' FIE MO!				D.F.	4074 ft				Swater and Control	
ODY	Permanent Datum:	1	GROUND LEVEL	Elev.: 4070 ft	f					
on: N J any: A	Log Measured From: Drilling Measured From:	1 1	KELLY BUSHING	5.0 ft above	above Perm. Datum					
Count Field: Locati Well: Comp	API Se 25-073	API Serial No. 25-073-21824	Section 4	Township 28N	Range					
Logging Date		17-Nov-2007				Logging Date				le le
Run Number		-				Run Number				
Depth Driller		3545 ft				Depth Driller				
Schlumberger Depth		3539 ft				Schlumberger Depth	Depth			
Bottom Log Interval		3531 ft				Bottom Log Interval	terval			
Casing Driller Size @	ODenth	7 000 in				Top Log Interval	<u>a</u>			
Casing Schlumberger	, pebul	894 #	894 11		(0)	Casing Driller	Casing Driller Size @ Depth	0	@	
Bit Size		6.250 in				B# Size	berger			
Type Fluid In Hole		FRESH WATER GEL	GEL			Type Fluid In Hole	ole			
	Viscosity	9 lbm/gal	34 s			200	Viscosity			
Source Of Sample		6 cm3	10			N Fluid Loss	PH			
RM @ Measured Tem	Doroturo	A DAO Char				Source Of Sample	nple			
RMF @ Measured Temperature	mperature	3.232 ohm m	© 69 degF		9	RM @ Measure	RM @ Measured Temperature	@	10	
RMC @ Measured Temperature	mperature	5.280 ohm.m				BMC Measu	BMC Measured lemperature	@	(0)	
F	NO	CALCULATED	C			Source RMF	Source RMF RMC	@		
Maximum Boordod T	TOTAL WILL	4.051 @ 69	3.241 @ 69	@	@	RM @ MRT	RMF @ MRT	@	@	
Circulation Stopped Time	Time	17-Nov-2007				Maximum Reco	Temper			
Logger On Bottom	Time	17-Nov-2007	16:50			logger On Bottom				
Unit Number	Location	7021 CHING	CHINOOK, MT		N. S.	Unit Number				
Recorded Rv		BOY DAVIS				Cinc I dani DCI	Location			



				Schlun	Schlumberger			Run 1	Run 2	ת
Company:	ALTAM	S TIO LNC	ALTAMONT OIL & GAS, INC.							
Well:	JODY F	JODY FIELD 4-1								
Field:	WILDCAT									
County:	PONDERA	RA		State: MONTANA	VA					
	", PLAIF	""PLAIFORM EXPRESS**	ESS**	# F						
	COMPEN	ISATED NE	COMPENSATED NEUTRON / LITHODENSTIY	HODENSTI	7					
	ARRAY II	ARRAY INDUCTION TOOL	TOOL							
4-1	NENENE SEC	NENENE SEC 4, T28N, R6W		Elev.: K.B.	4075 ft					
DERA CAT ENE SI FIELD MONT	SHL: 330' FNL & 430' FEL	L & 430' FEL		<u>p.</u> F.	4070 ft 4074 ft					
VILC NENI OD)	Permanent Datum:	L	GROUND LEVEL	Elev.: 4070 ft						
: N : S y: A	Log Measured From:	1	KELLY BUSHING	5.0 ft above	above Perm. Datum					
atior I:	Drilling Weasured From:	1	NELLY BUSHING							
Fiel Loc Wel Con	25-07	API Serial No. 25-073-21824	Section 4	Township 28N	Range 6W					
Logging Date		17-Nov-2007				Logging Date				
Denth Driller		7				Run Number				
Schlumberger Denth		3520 #				Depth Driller				
Bottom Log Interval		3531 #				Schlumberger Depth				
Top Log Interval		894 ft		The second		Bottom Log Interval				
Casing Driller Size @ Depth	Depth Depth	7.000 in	@ 894 ft	9	9	Casing Priller Size Size				
Casing Schlumberger	Ä	894 ft		The second secon		Casing Schlumberger	nıdçı		@	
Bit Size		6.250 in				Bit Size				
IN TIONE	F	FRESH WATER GEL	GEL			Type Fluid in Hole				
D Fluid loss PH	PH	9 lbm/gal	34 s				sity			
Source Of Sample		FLOWLINE	ō			M Fluid Loss PH				
RM @ Measured Temperature	perature	4.040 ohm.m	@ 69 deaF	9	9)	PM Monage				
RMF @ Measured Temperature	mperature	3.232 ohm.m		0	9	RMF @ Measured Temperature	ature		@	
sured	mperature	5.280 ohm.m			@	RMC @ Measured Temperature	rature		9 (0	
BM @ MRT BN	HMC MAT	ULAT	ULATE			Source RMF RMC	Siardic		(6)	
ecorde	d Temperatures	69 deaf	3.241 (0) 69	@	@	RM @ MRT RMF	RMF @ MRT	@	@	
Circulation Stopped	Time	17-Nov-2007				Circulation Stopped Time	peratures			
Logger On Bottom	Time	17-Nov-2007	16:50			Logger On Bottom	Time			
Unit Number	Location	7021 CHINC	CHINOOK, MT		-	4	location	_		
				=			T COLUMN		12	-



LOCATE WELL CORRECTLY

### (SUBMIT IN TRIPLICATE)

### TO BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA BILLINGS OR SHELBY

ARM 36.22.307 ARM 36.22.1011 ARM 36.22.1013

## COMPLETION REPORT

٨٦	TIMONIT	OIL & GAS	TNC	Lease	JODY	FIEL	DS			Well	No. 4-	1
company A	LIAMONI	OIL & GAD	1110					-> WTT.I	CAT			
ddress_P0	BOX 200	) - CUT BAI	IK MT	59427	Fi	eld (or . (E)	Area	a)	/			
he well is lo	ocated	$\frac{330}{\text{ft. fro}}$	m (SS) line	and 430	ft. fr	om (XXX	) lin	e of Sec	<u></u>		40701	CT.
3	т. 28	8 ; R. 6	; Cou	ntyPO	ONDERA				; Elevati	ion	(D.F., R.B.	or G.L.)
Commenced	drilling	Novemb	er 5, 20	07 <b>xy</b>	; Co	mplete	d	Novembe	10, 4	,007		,23230
Write the AI	PI# or the	e well name	of anothe	r well on t	his lea	se if on	ie ex	kists //				·
The info	rmation g	given herewit	h is a con	iplete and o	correct	record	oft	ie well. The	summa	ıryon	this pa	ge is for
he condition	n of the v	well at the al	oove date.		Signe	15	7	Solide	1		/	
Completed a	(OII WCII.	gas wen, day non	)	<del></del>	Signe	PATR		M. MONTA	LBAN			
API#25- <u>07</u> 3	3 - 2182	24			Title _			NT & CEO				
					Date _	DECE	MBE.	R 31, 200	08			
			IMPO	RTANT ZO	NES O	PORC	SIT	Y	· · · · · · · · · · · · · · · · · · ·			
		(denote oil	by O, gas	by G, water	er by W	; state	form	nation ii k	nowii)			
From 3446	C 7 4-	3/63	0 & G		From			to	The second secon			The state of the s
From 3456	7' to_	3474 <b>'</b>	O.G &-W		V3			to				
From					From			_ to				
				CASING	G RECO	ORD						
							<del></del> 1		Sack o			and d from
Size Casing	Weight Per Ft.	Grade	Thread	894.41		Fron	n	894.41	180 S	acks	Class	G Cemen
7"	17#/ft 10.5#/		ST&C ST&C	3545		894.	41'	3454!	100 S	acks	Class	G Cemen
4-1/2"	10.547	IL ALL	DIGG					910				
				TUBIN	G RECO	)RD		<del></del>	Desfora	tions		W.
	Siz Tubi	ng Pe	eight er Ft.	Grade	Thr ST&0			8 Jts	Perfora			
	2-3/	8" 4.7	#/ft	J55								
		sed from		COMPLE				to	3545			
Rotary tool	ls were u	sed from		U				_ to		+,	`	
Total depth	3545	sed from ft.; Plugg	ed back to	3463'	T.D	.; Open	hol	e from			,	
				I -				HOT, SAND FR				
Inter		Number	and	Inte	erval			Amount of Material Used	1		Press	sure
From	To	Size and		From	То			Waterial osci			Ties	
3446	3450 <b>'</b>	3-1/8" HS	C									
3466	3470	111		1						-		
3470 <b>'</b>	3474 <b>'</b>					i	(16.1	P&A show plu	as above)	4		
7 P 1	And the second s			INITIAL	ותטממ	TOTION	L185001 G	GA Show pro-				
		SUBSECTION CONTROL OF THE SECTION OF						ation				
Well is pro							J1 1112	allon.				
I.P	7	barrels of o	l per	1h	ours _	(pump	ing o	r flowing)				- Constant To the Constant
		s per	_hours.					0.0	w.c			
	mci oi gas	, pc	barre	is of water per		hours	, or_	%	w.c.			

0000100	e lif meser	ured). Tr	ibing	F	si flowing	bbl./day) g;	(II (AIXCII)		psi shut-i
сѕѕиге	o (II IIIcas)	Ca	sing	p:	si flowing	;			her erren-
vity_		° API (co	rrected to	60° F.)					
	m Values I	Tactor	5000	Porosity		%	Average Connate	e water	
pe of t	rap			9			*		
					STEM T	ESTS			
D.S.T. No.	From	То	Tool Open (Min.)	Shut-In	F.P.	S.I.P.	Reco	overy	Cushion
NO.									
	NONE	10.							
				3		1			
		CORE	re.	150		¥	LOG	RUNS	
				vered			Туре	From	То
0.	Internval		5,2 4000000		38	ARRAY II	NDUCTION LOG	894'	3531
	MONTE					& THREE	ATED NEUTRON DETECTOR		
	NONE					DENSITY		894	3531 <b>'</b>
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				DODA/A	TION RE	CORD		ia .	
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### OPERATIONAL SUMMARY

and

### GEOLOGICAL WELL HISTORY

Altamont Oil and Gas Inc. Altamont/Jody Field No. 4-1 NENENE Section 4-T28N-R6W (330' FNL – 430'FEL) Glacier County, Montana API No. 25-073-21824

Wildcat

Patrick M. Montalban Petroleum Geologist P.O. Box 488 Cut Bank, Montana 59427

### Resume

Spud Date:

Completion Date:

Status:

Total Depth:

Casing:

Eleavtion:

Contractor:

Type Rig: Mud Pump:

Air Compressor:

Air Program:

Mud Program:

Hole Size: Size Drill Pipe:

Size Drill Collars:

No. Drill Collars:

Sample Intervals:

Sample Quality:

Cores:

Drill Stem Tests:

November 5, 2007

Novemebr 18, 2007

Madison Sun River Dolomite "Wildcat Oil Well

Discovery"

4070'GR. 4075'KB.

3545' Driller 3539' Logger

Ran 21 joints 7",17#/ft,ltd,8rd,ST&C,Rge 3,(896.91)

set@894.41KB cemented with 180sx Class G cement,3%Calcium Chloride, 3% Calcium

chloride, 1/2# flocelle.

Ran 85 joints41/2",10.5#/ft,8rd,ST&C,Rge3 (3549.57') set @3546.57' KB cemented with 100 sx Class G, 10% Nacl,10% Fine Mica,

1/4 #/sack flocelle

GaSco Drilling LLC Rig No.5

Atlas Copco (Tophead Drive) National Ideal C - 150 (6 1/2" x 12")

Dawoo Industries (1250mmcf 350psi)

Surface to 3390'

3390'-3545'

8 3/4" (0-897') 6 1/4" (897' - 3545 ') 3 1/2" O.D. x 2 1/2" I.D. (13.30 #/ft.)

4 3/4"O.D. x 2 1/8" I.D.(353') Weight Pipe =

4 ½"O.D. x 2"I.D.(16.60#/ft.)(120")

13 = 353

30'(1950'-2310')(2560'-2980')10'(1700'-1950')

(2310' - 2560')(2980' - 3450')(3470' - 3480')

(3490' - 3545')

5'(3450' - 3470')(3480' - 3490') Poor while drilling with mud.

None

None

Air Drilling Summary

Drilled 8 3/4" hole with air (mist) from 37' to 897'.Did not show strong flow of water through the drlling of the surface hole. Drilled 6 ¼" hole with air from 897' to 1938'. 1 second flare @ 1938'(T.S.T.M.) Drilled 6 ¼" hole with air from 1938' to 2224' 2 second flare @ 2224'(T.S.T.M.). Drilled 6 ¼" hole with air from 2224' to 2510'. 3 second flare @ 2510'(T.S.T.M.). Drilled 6 ¼" hole with air from 2510' to 3390' and did not encounter water. Total depth 3390' by driller with air. Converted to mud drilling program at 3390'.

Sample Distribution

None Required by the Montana Oil and Gas Conservation Commission, 2535 St. Johns Ave., Billings Montana in accordance with Rule No. 229

Logging Summary

Ran Schlumberger Platform Express Array Induction Log from 894' to 3531'.Ran Schlumberger Platform Express Compensated Neutron & Three Detector Density from 894' to 3531'.

### Mud Summary

Gel –104sx Reosamart – 1sx Maxi Seal - 8sx Air Foam – 1 - 1 Gallon Containers Caustic Soda – 3sx Poly Plus – 1 x 5 gallon

Drilling Zone – 2 x 5 gallon Poly Pac UL – 3 sx ReoSmart – 1 Platinum PacUL – 3sx Sodium Bicarbonate – 1sx

				Bit Recor	:d			
No.	Size	Make	Type	Interval	Footage	Hours	Jet Size	Serial No.
1	8 3/4"	STC	F-20	0 - 897	897	36.00	open	
2	6 1/4"	HTC	ER-20	897-3545	2648	50.75		51080508

### Vertical Surveys

Depth	Degrees
897'	1 1/2*
1525'	3/4*
2002'	1*
2574'	$2^{3/4}*$
3018'	2 1/2*

### Electric Log Formation Tops

Cretaceous	Depth	Datum
Colorado		
Two Medicine		
Blackleaf	1786	+2289
Blackleaf Bentonite Marker	1825	+2250
Blackleaf Sandstone	1830	+2245
Base Fish Scales		
1 <sup>st</sup> Bow Island	1884	+2191
2 <sup>nd</sup> Bow Island	2026	+2049
3 <sup>rd</sup> Bow Island	2134	+1941
4 <sup>th</sup> Bow Island "A"	2367	+1708
4 <sup>th</sup> Bow Island "B"	2413	+1662
Dakota	2539	+1536
Kootenai	2582	+1493
Sunburst	3079	+996
Jurassic		
Morrison	3135	+940
Swift	3208	+867
Rierdon(Ellis Shale)	3331	+744
Sawtooth	3416	+659
Mississippian		
Madison(Sun River Dolomite)	3445	+630
Total Depth:	3539	+536

### Daily Activity Summary (Calendar Days)

November 6,2007 Moved in and Rigged up Gasco Drilling LLC Rig No. 5.

Spud 8 3/4" hole at 4:30P.M. Drilled 8 3/4" surface hole from 0'

to 19'. Drive 9 5/8" casing set @ 15.00' set @ 19'. Repair upper radiator hose. Nipple up deflector head. Drillled 8 3/4" surface hole with air mist from 15' to 154'.

November 7,2007 Drilled 8 3/4" surface hole with air mist from 154' to 669'.

November 8,2007 Drilled 8 3/4" surface hole with air mist from 669 to 897'.

Total Depth 897' by Driller. Condition hole for surface casing.Ran 23 joints 7",17#/ft,Ltd,8rd,ST&C,(896.91)set @ 894.41.'KB cemented with 180 sacks Class G cement + 3% Calcium Chloride,1/2#/sack focelle. Good returns to surface.

Plug down at 1:45 P.M. W.O.C. Nipple up BOP.

Rig down and move off location. Wait on new drilling rig.

November 13,2007 T.D. 897'. Moved in and rigged up Gasco Drilling LLC Rig No.

7. Work on rig floor. Nipple up B.O.P.. Work on hydrolics. Trip in hole with 6 ¼" bit.Clean and dry hole. Drilled cement plug and dry

hole.Ran survey.

November 14,2007 T.D. 897'. Dry hole. Drilled out @ 3:05A.M.. Drilled 6 1/4" hole

with air from 897' to 2420'.

November 15,2007 Drilled 6 1/4" hole with air from 2420' to 3370'.

November 16,2007 Drilled 6 1/4" hole with air from 3370' to 3390'. Drilled to 3390'

Total depth by driller with air. Did not encounter any moisture of any kind. Converted to drilling mud @ 12:30A.M. Drilled out with drilling mud @ 10:10P.M. Drilled 6 1/4" hole with drilling mud

from 3390' to 3545'. Total depth 3545' by driller.

November 17,2007

T.D. 3545'. Condition hole for logs. Short trip. Condition hole for logs. Trip out of hole for open hole logs. Rig broke down to repair Boom a number of times. Ran Schlumberger logs. Rig up to run production casing. Began to run production casing.

November 18,2007

Ran 85 joints 4 ½",9.5#/ft,API.,J55,8rd,ST&C,Rge 3 (3549.57') set @ 3546.47'. Lower viscosity to 40. Cemented Well with 100 sacks Class G cement with 10%Nacl,10% Fine Mica,1/4# flocelle,Plug down @5:50A.M.. Set 4 ½" casing in the Slips. Rigged down. Report Ends

### Lithology

Sample descriptions begin at 1700', in the Cretaceous Colorado. Sample descriptions are not corrected for drill time lag. Formation tops were determined from electric logs. Samples were examined and described wet except for the samples in the Mississippian Madison Sun River Dolomite that were described dry.

### SAMPLES CAUGHT IN 10' INTERVAL:

1700 - 1710	Shale,dk grey,chunky,firm,dense,noncalcareous,earthy textured,gritty in
	parts.

- 1710 1720 same as above.
- 1720 1730 Shale,grey,chunky,firm,dense,noncalcareous,earthy textured to gritty textured,sandy in parts.
- 1730 1740 Shale, grey, chunky, platy, firm, dense, nncalcareous, earthy textured, micromicaceous. Bentonite, tan, soft, lumpy.
- 1740 1750 same as above. Bentonite, tan, white, soft, lumpy.
- 1750 1760 Shale, grey, chunky, platy, firm, dense, noncalcaroeus, earthy textured, micromicaeous.
- 1760 1770 same as above.
- 1770 1780 Shale, grey, chunky, firm to hard, dense, noncalcareous, earthy textured, microcmicaceous.
- 1786 E Log Top Blackleaf
- 1780 1790 Shale,dk greyish black,chunky,blocky,firm to hard,dense,very calcareous, many tan specks.
- 1790 1800 Shale as above.

- 1800 1810 Shale,dk grey,chunky,blocky,firm to hard,dense,very calcareous, earthy textured,many tan specks.
- 1810 1820 same as above.
- 1825 E Log Top Blackleaf Bentonite
- 1820 1830 Shale, dk grey, chunkyfirm, dense, calcareous, earthy textured.
- 1830 E Log Top Blackleaf Sandstone
- 1830 1840 Shale, grey, chunky, firm, dense, noncalcareous, earthy textured, Bentonite, white, soft, lumpy, micromicaceous.
- 1840 1850 Shale as above.
- 1850 1860 Shale, grey, chunky, firm, dense, noncalcareous, earthy to gritty textured. Siltstone, grey, blocky, hard, dense, noncalcareous, tight.
- 1860 1870 Sandstone, grey, very fine to fine grained, subrounded to subangular, Moderately sorted quartzose, many clear and grey grains,
- 1870 1880 Shale,dk grey,chunky,firm,dense,noncalcareous,earthy textured, many unconsolidated grains in sample pan. Siltstone,grey,blocky,hard, dense,noncalcaeous,tight.
- 1884 1st Bow Island
- 1880 1890 Many unconsolidated grains in sample pan.Bentonite,tan,soft, lumpy.
- 1890 1900 same as above.
- 1900 1910 Siltsone, grey, blocky, hard, dense, noncalcareous, tight
- 1910 1920 Shale, grey, chunky, firm, dense, noncalcareous, earthy to gritty textured. Siltsone as above. Unconsolidated grains in sample pan.

1920 - 1930Bentonite, tan, white, soft, waxy, lumpy, micromicaceous. Shale, dk grey Chunky, hard, dense, noncalcareous, earthy textured. 1930 - 1940Shale, grey, chunky, firm, dense, noncalcareous, earthy textured. 1940 – 1950 Bentonite, tan, soft, lumpy. Many unconsolidated grains in sample pan. Begin 30' Samples 1950 - 1980Sandstone, grey, very fine grained, rounded, well sorted quartzose, many clear and grey grains, trace glauconite grains. 1980 - 2010Bentonite, tan, soft, lumpy. Shale, greenish grey, chunky, firm, dense, noncalcareous, gritty textured. Siltstone, greenish grey, blocky, hard, dense noncalcareous, tight.  $2026 - E \text{ Log Top} - 2^{nd} \text{ Bow Island}$ 2010 - 2040Sandstone, grey, very fine to fine grained, rounded to subrounded, well sorted quartzose, many clear grains, few black chert grains, few glauconite grains. 2040 - 2070Shale, choclate brown, chunky, firm to hard, dense, waxy textured, trace orange zeolites. Bentonite,tan,soft,lumpy 2070 - 2100Shale, lt green, chunky, firm, dense, noncalcareous, waxy textured. Much Bentonite, tan, soft, lumpy. 2100 - 2130Sandstone, greenish grey, very fine to medium grained, coarse grained in parts, subrounded to angular, poorly sorted quartzose, many clear grains, trace black chert grains, trace glauconite grains. 2134 – E Log Top – 3<sup>rd</sup> Bow Island

Sandstone, brownish white, very fine grained, rounded, well sorted

quartzose, many clear and grey grains.

2130 - 2160

- 2160 2190 Shale, black, chunky, firm, dense, noncalcareous, waxy textured.
- 2190 2220 Bentonite,ten,soft,lumpy,micromicaeous, Shale,lt green,chunky, Soft,dense,noncalcareous,waxy textured.
- 2220 2250 Shale, green, grey, chunky, soft to firm, dense, noncalcareous, earthy to waxy many orange zeolites. Textured. Bentonite, tan, soft, lumpy.
- 2250 2280 Bentonite,tan,soft,lumpy. Sandstone,brown,very fine grained,rounded, well sorted quartzose.
- 2280 2310 Shale, grey, chunky, soft to firm, dense, noncalcareous, earthy to gritty Textured. Bentonite, tan, soft, lumpy.

### Resume 10' Samples

- 2310 2320 Shale,dk grey,chunky,firm,dense,noncalcareous,earthy to gritty textured. Bentonite,tan,soft,lumpy.
- 2320 2330 Bentonite, tan, soft, lumpy. Shale as above.
- 2330 2340 Sandstone,dk grey,very fine grained,well sorted,rounded quartzose many unconsolidated grains in sample pan,many clear and grey grains, trace glauconite grains. Bentonite,tan soft,lumpy. Shale,dk grey,chunky firm,dense noncalcareous,gritty textured.
- 2340 2350 Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
- 2350 2360 same as above.
- 2367 E Log Top 4<sup>th</sup> Bow Island "A" Sandstone
- 2360 2370 Sandstone, grey, very fine to fine, rounded to subrounded, moderately sorted quartzose, noncalcareous, many clear grains, few black chert grains, few glauconite grains.

2370 - 2380Sandstone, grey, very fine grained, rounded, well sorted quartzose Many clear grains, many grey grain, few glauconite grains. 2380 - 2390same as above. 2390 - 2400Shale, dk grey, chunky, firm, dense, noncalcareous, gritty textured bentonite, tan, soft, lumpy. Many unconsolidated grains in sample pan. 2400 - 2410Shale, dk grey, chunky, firm, dense, noncalcareous, gritty textured sandy in parts. Bentonite, tan, soft, lumpy. 2413 - E Log Top - 4th Bow Island "B" Sandstone Sandstone, grey, very fine grained, rounded, well sorted 2410 - 2420quartzose, many clear and grey grains, few glauconite grains. 2420 – 2430 same as above becoming slightly coarser grained, very bentonitic. 2430 - 2440Sandstone, dk grey, very fine grained, rounded to subrounded, well sorted quartzose, many grey grains, few glauconite grains, bentonitic. Shale,dk grey,chunky,firm,dense,noncalcareous,gritty to sandy 2440 - 2450textured. Many unconsolidated grains in sample pan. 2450 - 2460Shale, grey, chunky, soft to firm, dense, noncalcareous, gritty textured unconsolidated grains in sample pan. 2460 – 2470 same as above. Bentonite, tan, soft, lumpy. 2470 - 2480Shale,dk grey,grey,chunky,firm,dense,noncalcareous,earthy textured, Bentonitic. 2480 - 2490Shale, grey, chunky, soft to firm, dense, noncalcareous, earthy textured, Micromicaceous.

2490 - 2500same as above. Many unconsolidated grains in sample pan. 2500 - 2510Shale, grey, dk grey, chunky, firm, dense, noncal careous, earthy to gritty textured. Bentonite,tan,soft,lumpy. 2510 - 2520Sandstone, grey, very fine grained, rounded, well sorted quartzose Many clear and grey grains, few glauconite grain, bentonitic. 2520 - 2530Many unconsolidated grains in sample pan. Shale, grey, chunky, firm, dense, noncalcareous, gritty textured. Sandstone as above. 2539 – E Log Top - Dakota Shale, grey, chunky, firm, dense, noncalcareous, earthy textured, 2530 - 2540micromicaceous.Bentonite,tan,soft,lumpy. Sandstone, lt grey, very fine grained, rounded, well sorted quartzose 2540 - 2550many clear grains few grey grains. 2550 - 2560Sandstone, clear, very fine grained, rounded to subangular, well sorted Quartzose, many clear grains, few grey chert grains, bentonitic. Resume 30' Samples 2582 – E Log Top - Kootenai 2560 - 2590Sandstone, brown, very fine to medium grained, rounded to subangular Moderately sorted quartzose, many unconsolidated grains.Bentonite,tan,soft. Shale, grey, chunky, firm, dense, noncalcareous, earthy to 2590 - 2620

gritty textured.

2620 - 2650Sandstone, grey, very fine to fine grained, rounded to subrounded, well to moderately sorted quartzose, many clear grains, many grey shale inclusions many black chert grains. 2650 - 2680Sandstone, grayish white, very fine to fine grained, rounded to subangular, moderately sorted quartzose, many clear grains, many grey and black grains. 2680 - 2710Shale, brick red, green, lt green, chunky, soft to firm, dense, noncalcareous, earthy to gritty textured. 2710 - 2740Sandstone, green, lt green, very fine grained, rounded, well sorted quartzose many unconsolidated grains, many clear grains, orange shale as above. Shale green, chunky, firm, dense, noncalcareous, gritty textured. 2740 - 2770Shale, grey, chunky, platy, firm, dense, noncalcareous, earthy textured. Bentonite, tan, soft, lumpy. 2770 - 2800Sandstone, green, lt green, very fine to fine, rounded to subrounded, well sorted quartzose, many clear and frosted grains, many glauconite grains. 2800 - 2830Shale, green, chunky, firm, dense, noncalcareous, earthy textured, smooth. shale, grey, chunky, firm, dense, noncalcareous, earthy textured. 2830 - 2860Shale, brick red, maroon, green, grey, chunky, firm, dense, noncal careous, gritty textured.Bentonite, white, soft waxy. 2860 - 2890Shale, multicolored, green, brick red, grey, reddish brown, maroon, chunky, soft to firm, dense, noncalcareous, earthy textured. 2890 - 2920Sandstone, grey, very fine to fine grained, rounded to subangular, moderately Sorted quartzose, many clear grains, many grey grains, many amber grains, Bentonitic.

2920 - 2950Sandstone, dk brown, very fine grained, rounded, well sorted quartzose, Bentonitic, tan, soft, lumpy. 2950 - 2980Shale, brick red, chunky, soft to firm, dense, noncalcareous, gritty textured. turns sample bag bick red. Begin 10' Samples 2980 - 2990Shale, brown, brick red, chunky, firm, dense, noncal careous, earthy to gritty textured. 2990 - 3000Shale, green, chunky, soft to firm, dense, noncalcareous, gritty textured, sandy in parts. Bentonite, tan, soft, lumpy. Shale, grey, chunky, platy, soft to firm, dense, noncalcareous, gritty textured. 3000 - 30103010 - 3020Shale, multicolored, green, grey, brick red, brown, reddish brown, maroon, chunky, firm, dense, noncalcareous, earthy textured, motteled in parts. 3020 - 3030Sandstone, grey, very fine grained, rounded to subrounded, well sorted quartzose, many clear grains, many black shale inclusions, trace green grains, trace amber grains. 3030 - 3040Sandstone, grayish white, very fine grained, rounded, well sorted quartzose, many clear grains, trace black and grey shale inclusions, trace amber grains. 3040 - 3050Shale, multicolored, brick red, green, grey, brown, maroon, chunky, soft to firm, dense, motteled, noncalcareous, earthy textured. 3050 - 3060Shale, brick red, grey, green, chunky, firm, dense, noncal careous, earthy textured, smooth. 3060 - 3070Shale, grey, green, chunky, blocky, firm, dense, noncal careous, earthy to slightly gritty textured.

- 3079 E Log Top Sunburst
- 3070 3080 same as above.
- 3080 3090 Sandstone, white, clear, very fine to fine grained, rounded to subrounded, well sorted quartzose, many clear grains, trace amber grains, few grey chert grains.
- 3090 3100 Sandstone, white, clear, very fine to fine grained, rounded to subrouned, well Sorted quartzose, many clear grains, few grey chert grains, trace amber Grains.
- 3100 3110 Shale, green, lt green, chunky, firm, dense, noncalcareous, earthy textured Smooth. Bentonte, tan, cream, soft, lumpy.
- 3110 3120 Shale, green, chunky, blocky, firm, dense, no calcareous, earthy to waxy Textured. Bentonite, white, soft, lumpy.
- 3120 3130 Shale,greenish grey,chunky,firm,dense,noncalcareous,waxy textured.

  Much Bentonite,white,soft,lumpy. Many coarse grained,angular orange grains in sample pan. Many unconsolidated grains in sample pan.
- 3135 E Log Top Morrison
- 3130 3140 Sandstone, white, clear, very fine to fine grained, rounded to subrounded well to moderately sorted quartzose, many clear and frosty grains. few grey grains.
- 3140 3150 Shale, multicolored, green, lt green, maroon, grey, "baby poop yellow", chunky, soft to firm, dense, noncal careous, earthy textured.
- 3150 3160 Shale, brick red, reddish brown, trace yellow above, chunky, soft to firm, Dense, noncalcareous, earthy textured, Bentoite, white, soft, lumpy.

3160 - 3170Shale, maroon, greenish grey, grey, chunky, soft to firm, dense, Noncalcareous, earthy to waxy textured. Bentonite, white, soft. 3170 - 3180Shale, baby poop yellow, chunky, soft, noncalcareous, earthy textured. Shale, grey, lt grey, chunky, soft firm, dense, noncalcareous, earthy textured. 3180 - 3190Siltstone, brown, chunky, blocky, firm to hard, dense, very calcareous, tight,no shows. Shale, grey, chunky, soft to firm, dense, calcareous, earthy to gritty textured. 3190 - 3200Shale, dk grey, chunky, soft to firm, dense, calcareous, earthy to gritty textured, sandy in parts. 3208 – E Log Top - Swift Sandstone, brown, very fine to fine grained, rounded to subrounded, well 3200 - 3210 sorted, quartzose, many clear and dark grains. Shale,dk grey,chunky,soft to firm,dense,noncalcareous,gritty 3210 - 3220Textured. Many very fine grains in sample pan. 3220 - 3230Sandstone, brown, very fine to fine grained, rounded to subangular, well to Moderately sorted quartzose, many clear grains and few grey grains. 3230 - 3240Sandstone as above. Shale, dk grey, chunky, firm, dense, noncalcareous, gritty textured. 3240 - 3250Sandstone, brown, very fine to fine grained, rounded, well sorted quartzose many clear grains. Shale dk grey, chunky, soft to firm, dense, noncalcareous gritty textured. 3250 - 3260 same as above. 3260 – 3270 Sandstone, brown, very fine grained, rounded, well sorted quartzose many clear and grey grains.

3270 - 3280	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
3280 – 3290	Shale,grey,chunky,platy,firm,dense,noncalcareous,earthy to gritty textured.
3290 - 3300	Shale, grey, chunky, platy, firm, dense, noncalcareous, earthy textured.
3300 – 3310	Shale,grey,lt grey,chunky,platy,firm,dense,noncalcareous,earthy Textured.
3310 – 3320	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
3320 - 3330	Shale as above.
3331 – E Log	Top Rierdon
3330 – 3340	Marlstone,dove grey,chunky,blocky,firm to hard,dense,very calcareous earthy textured,micropyritic. Marlstone,tan,soft,lumpy,very calcareous.
3340 – 3350	same as above.
3350 – 3360	Marlstone,dove grey,chunky,soft to firm,dense,very calcareous,earthy textured,micropyritic.
3360 – 3370	same as above.
3370 – 3380	Marlstone,dove grey,chunky,firm to hard,dense,very calcareous, earthy textured,micropyritic. Marlstone,tan,soft,lumpy.
3380 – 3390	Marlstone as above.
Convert to Dr encounter any	illing mud. Drilled to Total Depth 3390 by Driller with air.Did not moisture.

- 3390 3400 Marlstone as above.
- 3400 3410 Marlstone, dove grey, greenish grey, chunky, firm to hard, dense, very calcareous, earthy textured, micropyritic.
- 3416 E Log Top Sawtooth
- 3410 3420 same as above. Poor sample many cavings.
- 3420 3430 Siltstone,lt grey,chunky,blocky,soft to hard,dense,very calcareous, micropyritic. Poor sample 50% cavings
- 3430 3440 Siltstone,lt grey,grey,chinky,blocky,firm to hard,dense,very calcareous Earthy texyuted,micropyritic.
- 3445 E Log Top Madison Sun River Dolomite
- 3440 3450 Dolomite,tan,buff,chalky to sublithograpic in most parts,Trace Dolomite Tan,buff,finely microcrystalline to pin point vugular porosity,fair Petroliferous odor,bright yellow fluorescence,stong flowing cut in Trichloroethane, possible oil pay.

#### Begin 5' Samples

- 3450 3455 Dolomite as above. Dolomite,tan,buff,finely microcrystalline porosity, Large pin point vugular porosity,fair to strong petroliferous odor,bright Yellow porosity,live brown oil stain,strong flowing cut in trichloroethane "Oil Payzone".
- 3455 3460 Dolomite,tan,buff,chalky,sublithgraphic,tight,dense,no shows. Few clusters with show as above.

- 3460 3465 Dolomite,tan,buff,cryptocrystalline to chalky,dense,nonshows, Dolomte as above,shows as above.
- 3465 3470 Dolomite,tan,buff,fragmental,chalky,sublithoghric,dense,pinpoint vugular porosity in parts.no shows, Trace Dolomite,tan,white,finely crystalline,sucrosic,pin point vugular porosity,fractures,fair petroliferous odor,live brown oil stain,stong flowing cut in trichloroethane,oil pay.

#### Resume 10' Samples

3470 -3480 Dolomite,tan,coarsely crystalline porosity,honeycomb porosity, large vugular porosity,very strong petroliferous odor,uniform bright yellow fluorescence,live brown oil stain,strong flowing cut in trichloroethane,oil payzone.

#### Resume 5' Samples

- 3480 3485 Same as above. Dolomite,tan,buff,chalky,sublithographic,dense,no shows.
- 3485 3490 Dolomite,tan,buff,white,chalky,finely crystalline,pinpoint vugular porosity,chalky,dense,noncalcareous,no shows.

#### Resume 10' Samples

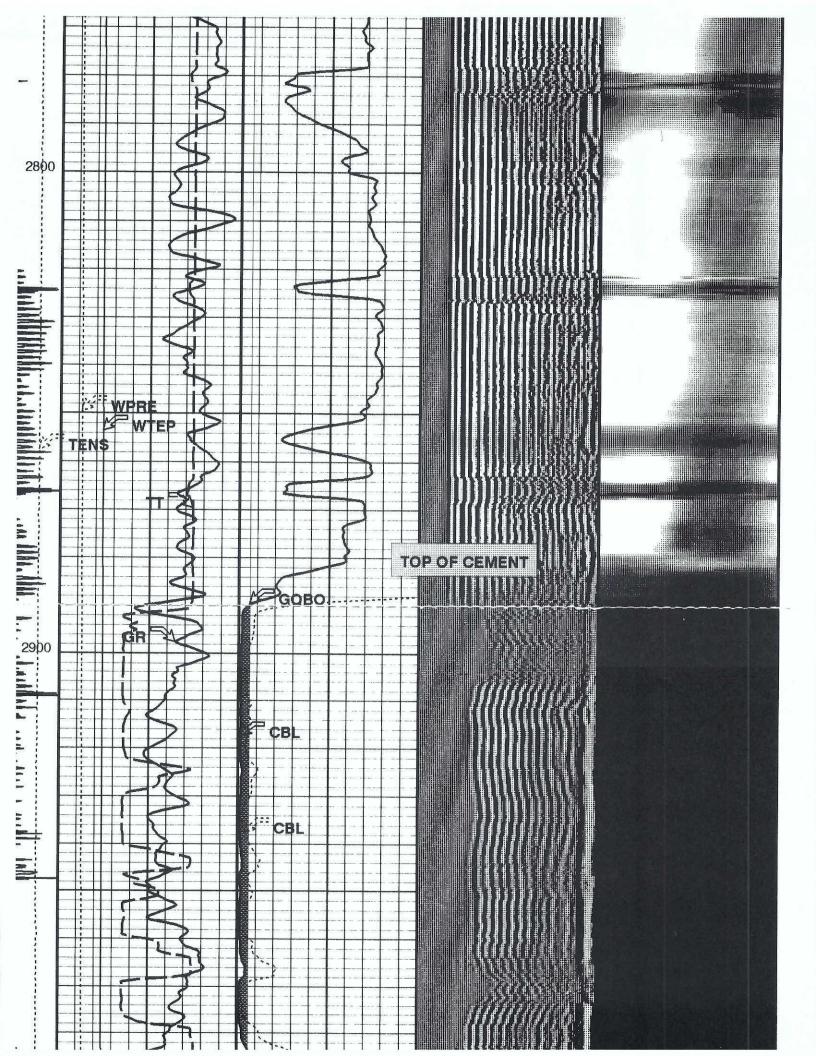
- 3490 3500 Dolomite as above. Shale,dk grey,chunky,firm,dense,noncalcareous, earthy textured.
- 3500 3510 Dolomite,tan,white,chalky,finely microcrystalline,pinpoint vugular Porosity,dense,no shows. Shale as above.
- 3510 3520 Dolomite,tan,buff,medium to coarse crystalline,large pin point Vugular porosity,no shows,no stain,no fluorescence.
- 3520 3530 Dolomite,tan,buff,sublithoghraphic,dense,tight,no shows.Chalky in parts. Traces dolomite as above.

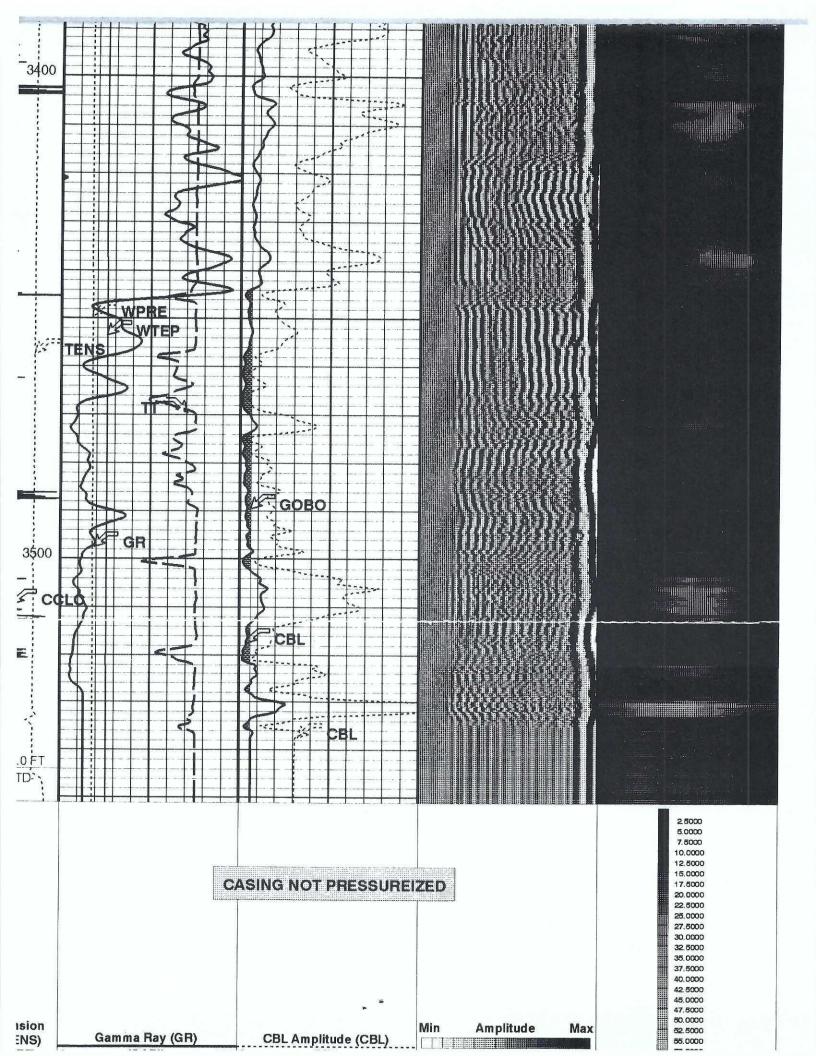
3530 – 3540 Dolomite, white, chalky sublithographic in parts, firm, dense, tight, no shows. Shale dk grey, chunky, dense, noncalcareous, earthy textured

3540 - 3545 same as above.

3545 - Total Depth by Driller 3539 - Total Depth by Logger

			Location	Unit Number			ON.	375 WILLISTON	Location	Unit Number
			Time	Logger On Bottom	-11 -26 -38 / /		14:00	30-Nov-2007	Time	Logger On Bottom
			Temperatures	Maximum Recorded Temperatures				74 degF	Temperatures	Maximum Recorded Temperatures
				То				3545 ft		То
				From				0 ft		From
				Grade						Grade
				Weight				10.5 lbm/ft		Weight
				Casing/Tubing Size				4.500 in		Casing/Tubing Size
				To				3545 ft		То
				From				01		From
				Bit Size				6.250 in		Bit Size
			GSIRING	BIT/CASING/TUBING STRING					NGSTRING	BIT/CASING/TUBING STRING
				Fluid Level				400 ft		Fluid Level
				Density				8.6 lbm/gal		Density
				Salinity						Salinity
				Casing Fluid Type				FRESH WATER		Casing Fluid Type
				lop Log Interval				2678 ft		Top Log Interval
				Bottom Log Interval				3536 ft		Bottom Log Interval
				Schlumberger Depth				3544 €	2	Schlumberger Depth
				Depth Driller				3450 ft		Depth Driller
				Hun Number				ONE		Run Number
				Logging Date				30-Nov-2007		Logging Date
		2700 ft		Expected Cement Top	AAG	28N	4	21824	25-073-21824	F L
					Range	Township	Section	ial No.	API Serial No.	Cour ield oca Vell: Com
				Additives					ď	: tior
				Water Loss			KELLY BUSHING		Drilling Measured From:	า:
				Density	above Perm. Datum	5.0 ft above	KELLY BUSHING	ī	Log Measured From:	OI NI JO AL
				Volume		Elev.: 4070 ft	GROUND LEVEL	L	Permanent Datum:	E N
				- Tail Cement Type	50.5	ŀ				CK IE ( Y F
					4075 ft	ָם חו			450 450	ER 330 IEL
				Additives	4070 ft					r FI
				Water Loss	4075 ft	Elev.: K.B.		_ & 430 FEL	NE NE 330' FNL & 430 FEL	NL : 4-1
				Density		SH.	<b>EMPERA</b>	GR-CCL-PRESSURE-LEMPERALURE	GR-CCL-P	NGS & 4:
				Volume		j				30
				Casing String No					CBL-VDL	
		Primary		Primary/Squeeze			D LOG	SCM I: CEMENT BOND LOG	SCMT: CE	
			DATA					TOO H	CONT. OF	,
				Maximum Deviation	Ā	MONTANA	State:	D	PONDERA	County:
				Solution GOR			U	I UTING:	CHUCKI	Τ (Φ) (Ω)
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			roi					JODY FIELD 4-1	JODY FIE	<b>√</b> 0
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#### OPERATIONAL SUMMARY

and

#### GEOLOGICAL WELL HISTORY

Altamont Oil and Gas Inc. Altamont/Jody Field No. 4-1A NENENE Section 4-T28N-R6W (330' FNL – 380'FEL) Glacier County, Montana API No. 25-073-21842

Wildcat

Patrick M. Montalban Petroleum Geologist P.O. Box 488 Cut Bank, Montana 59427

#### Resume

Spud Date:

Completion Date:

Status:

Eleavtion:

Total Depth:

Casing:

Contractor:

Type Rig: Mud Pump: Air Compressor:

Air Program:

Mud Program:

Hole Size: Size Drill Pipe:

Size Drill Collars:

No. Drill Collars:

Sample Intervals:

Sample Quality: Cores:

Drill Stem Tests:

May 18, 2009

May 23, 2009

Madison Sun River Dolomite "Wildcat

Oil Well Discovery"

4070'GR. 4075'KB.

3442' Driller 3462' Driller (Completion) Ran 17 joints 7",17#/ft,ltd,8rd,ST&C,Rge 3

(729.17) set@726.67KB cemented with 160sx Class G cement, 3% Calcium Chloride, 3% Calcium

chloride, 1/2# flocelle.

Ran 85 joints 4 1/2",10.5#/ft,8rd,ST&C,Rge 3 (3442.91') set @3440.91' KB cemented with

60 sx Class G, 2% CaCO3 GaSco Drilling LLC Rig No.7

Atlas Copco RD20 (Tophead Drive) Gardner Denver FXK (6" x 14") Atlas Copco (1250mmcf 350psi)

Surface to 3442'

3442

8 3/4" (0-730') 6 1/4"(730' - 3442 ') 3 1/2" O.D. x 2 1/2" I.D. (13.30 #/ft.) 4 <sup>3</sup>/<sub>4</sub>"O.D. x 2 1/8" I.D.(353') Weight Pipe =

4 ½"O.D. x 2"I.D.(16.60#/ft.)(120')

13 = 354

30'(1950'- 2310')(2560' - 2980')

10'(1700'-1950')(2310'-2560')(2980'-3442')

Good None

None

#### Air Drilling Summary

Drilled 8 3/4" hole with air (mist) from 37' to 730'. Did not show strong flow of water through the drlling of the surface hole. Drilled 6 1/4" hole with air from 730' to 3442'. No gas was encountered. Total depth 3442' by driller with air. Converted to mud drilling program at 3442'.

## Sample Distribution

None Required by the Montana Oil and Gas Conservation Commission, 2535 St. Johns Ave., Billings Montana in accordance with Rule No. 229

Logging Summary
No Logs were run.

# Mud Summary

Max Gel -17sx

Plat Pac UL – 8 - 5gallons

Bit Record

No.	Size	Make	Type	Interval	Footage	Hours	Jet Size	Serial No.
1	8 3/4"	STC	CH-14	0 - 730	730	18.00	open	225925
2	6 1/4"	HTC	STX-20	730-3442	2712	28.00	open	5123271
3	3 7/8"	Varel	DW531	3442-3462	2 20	1.0	reg	1016538

#### Vertical Surveys

<u>Depth</u>	<u>Degrees</u>
251'	1/4*
730'	1/4*
1305'	1/2*
1970'	1/2*
2540'	1/2*
3272'	1/2*

# Sample Formation Tops

Cretaceous	<u>Depth</u>	<u>Datum</u>
Colorado		
Two Medicine		
Blackleaf	1786	+2289
Blackleaf Bentonite Marker	1825	+2250
Blackleaf Sandstone	1830	+2245
Base Fish Scales	-	
1 <sup>st</sup> Bow Island	1884	+2191
2 <sup>nd</sup> Bow Island	2026	+2049
3 <sup>rd</sup> Bow Island	2134	+1941
4 <sup>th</sup> Bow Island "A"	2367	+1708
4 <sup>th</sup> Bow Island "B"	2413	+1662
Dakota	2539	+1536
Kootenai	2582	+1493
Sunburst	3079	+996
Jurassic		
Morrison	3135	+940
Swift	3208	+867
Rierdon(Ellis Shale)	3331	+744
Sawtooth	3416	+659
Minimize		
Mississippian		
Madison(Sun River Dolomite)		
Total Depth:	3542	+633

#### Daily Activity Summary (Calendar Days)

May 18,2009 Moved in and Rigged up Gasco Drilling LLC Rig No. 7 Spud 8 3/4" hole at 11:00A.M. Drilled 8 3/4" surface hole from 0' to 37'. Drive 9 5/8" casing set @ 16.00' set @ 17'.

Repair upper radiator hose. Nipple up deflector head. Drillled 8 3/4" surface hole with air mist from 37' to 446'.

May 19,2009 Drilled 8 3/4" surface hole with air mist from 446 to 730'.

Total Depth 730' by Driller. Condition hole for surface casing.Ran 17 joints 7",17#/ft,Ltd,8rd,ST&C,(729.79)set @ 728.79'KB cemented with 160 sacks Class G cement + 3% Calcium Chloride,1/2#/sack focelle. Good returns to surface.

Plug down at 2:00 P.M. W.O.C. Nipple up BOP.

May 20,2009 Trip in hole with 6 1/4" bit. Clean and dry hole. Drilled cement plug

and dry hole.Ran survey. Dry hole. Drilled out @ 2:30A.M..

Drilled 6 1/4" hole with air from 730' to 2881'.

May 21,2009 Drilled 6 1/4" hole with air from 2881' to 3442'.

Total depth 3442' by driller.

Total depth by driller with air. Did not encounter any moisture.

Converted to drilling mud @ 7:00A.M.

Condition hole for 4 1/2" production casing. Short trip. Condition

hole for 4 ½" production easing. Trip out of hole for 4 ½"

Production casing. Rig up to run production casing.

May 22, 2009 Ran 85 joints 4 ½",9.5#/ft,API.,J55,8rd,ST&C,Rge 3

(3442.91') set @ 3440.91'. Lower viscosity to 40. Cemented Well with 60 sacks Class G cement with 2% calcium chloride.

Plug down @1:30A.M.. Set 4 1/2" casing in the

Slips.Report Ends.

May 23, 2009 T.D. Nipple up BOP. Pick up 2 3/8" tubing. Tagged plug at 3418'.

Mist up to drill out 4 ½" plug. Drilled 3 7/8" hole with air mist from 3442'to 3460'. Test well, no show of oil or water. Drilled 3 7/8" Hole with air mist from 3460' to 3462'. Shut in for 1 ½ hr. No show, no oil,no water,no odor. Note Driller Total Depth 3468'.

Last 5' run in with no rotation or weight. Rig down.

#### Lithology

Sample descriptions begin at 1700', in the Cretaceous Colorado. Sample descriptions are not corrected for drill time lag. Formation tops were determined from electric logs. Samples were examined and described wet except for the samples in the Mississippian Madison Sun River Dolomite that were described dry.

#### SAMPLES CAUGHT IN 10' INTERVAL:

- 1700 1710 Shale,dk grey,chunky,firm,dense,noncalcareous,earthy textured,gritty in parts.
- 1710 1720 same as above.
- 1720 1730 Shale, grey, chunky, firm, dense, noncalcareous, earthy textured to gritty textured, sandy in parts.
- 1730 1740 Shale,grey,chunky,platy,firm,dense,nncalcareous,earthy textured, micromicaceous. Bentonite,tan,soft,lumpy.
- 1740 1750 same as above. Bentonite, tan, white, soft, lumpy.
- 1750 1760 Shale, grey, chunky, platy, firm, dense, noncalcaroeus, earthy textured, micromicaeous.
- 1760 1770 same as above.
- 1770 1780 Shale, grey, chunky, firm to hard, dense, noncalcareous, earthy textured, microcmicaceous.

#### 1786 - Sample Top - Blackleaf

1780 – 1790 Shale,dk greyish black,chunky,blocky,firm to hard,dense,very calcareous,

#### many tan specks.

1790 - 1800 Shale as above.

1800 - 1810	Shale,dk grey,chunky,blocky,firm to hard,dense,very calcareous,
	earthy textured, many tan specks.

1810 - 1820 same as above.

#### 1825 – Sample Top – Blackleaf Bentonite

1820 – 1830 Shale, dk grey, chunky firm, dense, calcareous, earthy textured.

#### 1830 - Sample Top - Blackleaf Sandstone

- 1830 1840 Shale, grey, chunky, firm, dense, noncalcareous, earthy textured, Bentonite, white, soft, lumpy, micromicaceous.
- 1840 1850 Shale as above.
- 1850 1860 Shale, grey, chunky, firm, dense, noncalcareous, earthy to gritty textured. Siltstone, grey, blocky, hard, dense, noncalcareous, tight.
- 1860 1870 Sandstone, grey, very fine to fine grained, subrounded to subangular, Moderately sorted quartzose, many clear and grey grains,
- 1870 1880 Shale,dk grey,chunky,firm,dense,noncalcareous,earthy textured, many unconsolidated grains in sample pan. Siltstone,grey,blocky,hard, dense,noncalcaeous,tight.

#### 1884 - Sample Top - 1st Bow Island

- 1880 1890 Many unconsolidated grains in sample pan.Sandstone,dk grey,very fine grained,rounded,well sorted quartzose.Bentonite,tan,soft, lumpy.
- 1890 1900 same as above.
- 1900 1910 Siltsone, grey, blocky, hard, dense, noncalcareous, tight

- 1910 1920 Shale, grey, chunky, firm, dense, noncal careous, earthy to gritty textured. Siltsone as above. Unconsolidated grains in sample pan.
- 1920 1930 Bentonite,tan,white,soft,waxy,lumpy,micromicaceous.Shale,dk grey Chunky,hard,dense,noncalcareous,earthy textured.
- 1930 1940 Shale, grey, chunky, firm, dense, noncalcareous, earthy textured.
- 1940 1950 Bentonite,tan,soft,lumpy.Many unconsolidated grains in sample pan.

#### Begin 30' Samples

- 1950 1980 Sandstone, grey, very fine grained, rounded, well sorted quartzose, many clear and grey grains, trace glauconite grains.
- 1980 2010 Bentonite,tan,soft,lumpy.Shale,greenish grey,chunky,firm,dense, noncalcareous,gritty textured.Siltstone,greenish grey,blocky,hard,dense noncalcareous,tight.

#### 2026 - Sample Top - 2<sup>nd</sup> Bow Island

- 2010 2040 Sandstone, grey, very fine to fine grained, rounded to subrounded, well sorted quartzose, many clear grains, few black chert grains, few glauconite grains.
- 2040 2070 Shale, choclate brown, chunky, firm to hard, dense, waxy textured, trace orange zeolites. Bentonite, tan, soft, lumpy
- 2070 2100 Shale,lt green,chunky,firm,dense,noncalcareous,waxy textured. Much Bentonite,tan,soft,lumpy.
- 2100 2130 Sandstone, greenish grey, very fine to medium grained, coarse grained in parts, subrounded to angular, poorly sorted quartzose, many clear grains, trace black chert grains, trace glauconite grains.

## 2134 - Sample Top - 3<sup>rd</sup> Bow Island

2130 – 2160 Sandstone, brownish white, very fine grained, rounded, well sorted quartzose, many clear and grey grains.

- 2160 2190 Shale, black, chunky, firm, dense, noncalcareous, waxy textured.
- 2190 2220 Bentonite,ten,soft,lumpy,micromicaeous, Shale,lt green,chunky, Soft,dense,noncalcareous,waxy textured.
- 2220 2250 Shale,green,grey,chunky,soft to firm,dense,noncalcareous,earthy to waxy many orange zeolites.Textured. Bentonite,tan,soft,lumpy.
- 2250 2280 Bentonite,tan,soft,lumpy. Sandstone,brown,very fine grained,rounded, well sorted quartzose.
- 2280 2310 Shale, grey, chunky, soft to firm, dense, noncalcareous, earthy to gritty Textured. Bentonite, tan, soft, lumpy.

#### Resume 10' Samples

- 2310 2320 Shale,dk grey,chunky,firm,dense,noncalcareous,earthy to gritty textured. Bentonite,tan,soft,lumpy.
- 2320 2330 Bentonite, tan, soft, lumpy. Shale as above.
- 2330 2340 Sandstone,dk grey,very fine grained,well sorted,rounded quartzose many unconsolidated grains in sample pan,many clear and grey grains, trace glauconite grains. Bentonite,tan soft,lumpy. Shale,dk grey,chunky firm,dense noncalcareous,gritty textured.
- 2340 2350 Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
- 2350 2360 same as above.

#### 2367 - Sample Top - 4<sup>th</sup> Bow Island "A" Sandstone

2360 – 2370 Sandstone, grey, very fine to fine, rounded to subrounded, moderately sorted quartzose, noncalcareous, many clear grains, few black chert grains, few glauconite grains.

2370 – 2380	Sandstone, grey, very fine grained, rounded, well sorted quartzose Many clear grains, many grey grain, few glauconite grains.
2380 - 2390	same as above.
2390 – 2400	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured bentonite,tan,soft,lumpy. Many unconsolidated grains in sample pan.
2400 – 2410	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured sandy in parts. Bentonite,tan,soft,lumpy.
2413 – Sampl	e Top – 4 <sup>th</sup> Bow Island "B" Sandstone
2410 – 2420	Sandstone, grey, very fine grained, rounded, well sorted quartzose, many clear and grey grains, few glauconite grains.
2420 – 2430	same as above becoming slightly coarser grained, very bentonitic.
2430 – 2440	Sandstone,dk grey,very fine grained,rounded to subrounded,well sorted quartzose,many grey grains,few glauconite grains,bentonitic.
2440 – 2450	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty to sandy textured. Many unconsolidated grains in sample pan.
2450 – 2460	Shale,grey,chunky,soft to firm,dense,noncalcareous,gritty textured unconsolidated grains in sample pan.
2460 – 2470	same as above. Bentonite,tan,soft,lumpy.
2470 – 2480	Shale,dk grey,grey,chunky,firm,dense,noncalcareous,earthy textured, Bentonitic.
2480 – 2490	Shale,grey,chunky,soft to firm,dense,noncalcareous,earthy textured, Micromicaceous.

2490 - 2500	same as above. Many unconsolidated grains in sample pan.
2500 – 2510	Shale,grey,dk grey,chunky,firm,dense,noncalcareous,earthy to gritty textured. Bentonite,tan,soft,lumpy.
2510 – 2520	Sandstone, grey, very fine grained, rounded, well sorted quartzose Many clear and grey grains, few glauconite grain, bentonitic.
2520 – 2530	Many unconsolidated grains in sample pan. Shale,grey,chunky, firm,dense,noncalcareous,gritty textured. Sandstone as above.
2539 – Sample	e Top - Dakota
2530 – 2540	Shale,grey,chunky,firm,dense,noncalcareous,earthy textured, micromicaceous.Bentonite,tan,soft,lumpy.
2540 – 2550	Sandstone, lt grey, very fine grained, rounded, well sorted quartzose many clear grains few grey grains.
2550 – 2560	Sandstone, clear, very fine grained, rounded to subangular, well sorted Quartzose, many clear grains, few grey chert grains, bentonitic.
Resume 30' S	<u>amples</u>
2582 – Sampl	e Top - Kootenai
2560 – 2590	Sandstone, brown, very fine to medium grained, rounded to subangular Moderately sorted quartzose, many unconsolidated

grains.Bentonite,tan,soft.

gritty textured.

2590 - 2620 Shale, grey, chunky, firm, dense, noncal careous, earthy to

2620 – 2650	moderately sorted quartzose, many clear grains, many grey shale inclusions many black chert grains.
2650 – 2680	Sandstone, grayish white, very fine to fine grained, rounded to subangular, moderately sorted quartzose, many clear grains, many grey and black grains.
2680 – 2710	Shale, brick red, green, lt green, chunky, soft to firm, dense, noncalcareous, earthy to gritty textured.
2710 – 2740	Sandstone, green, lt green, very fine grained, rounded, well sorted quartzose many unconsolidated grains, many clear grains, orange shale as above. Shale green, chunky, firm, dense, noncalcareous, gritty textured.
2740 – 2770	Shale,grey,chunky,platy,firm,dense,noncalcareous,earthy textured. Bentonite,tan,soft,lumpy.
2770 – 2800	Sandstone, green, lt green, very fine to fine, rounded to subrounded, well sorted quartzose, many clear and frosted grains, many glauconite grains.
2800 – 2830	Shale, green, chunky, firm, dense, noncal careous, earthy textured, smooth. shale, grey, chunky, firm, dense, noncal careous, earthy textured.
2830 – 2860	Shale, brick red, maroon, green, grey, chunky, firm, dense, noncal careous, gritty textured. Bentonite, white, soft waxy.
2860 – 2890	Shale,multicolored,green,brick red,grey,reddish brown,maroon,chunky, soft to firm,dense,noncalcareous,earthy textured.
2890 – 2920	Sandstone, grey, very fine to fine grained, rounded to subangular, moderately Sorted quartzose, many clear grains, many grey grains, many amber grains, Bentonitic.

Bentonitic, tan, soft, lumpy. 2950 - 2980Shale, brick red, chunky, soft to firm, dense, noncalcareous, gritty textured. turns sample bag bick red. Begin 10' Samples Shale, brown, brick red, chunky, firm, dense, noncalcareous, earthy to gritty 2980 - 2990textured. 2990 - 3000Shale, green, chunky, soft to firm, dense, noncalcareous, gritty textured, sandy in parts. Bentonite,tan,soft,lumpy. 3000 - 3010Shale, grey, chunky, platy, soft to firm, dense, noncalcareous, gritty textured. Shale, multicolored, green, grey, brick red, brown, reddish brown, maroon, 3010 - 3020chunky, firm, dense, noncalcareous, earthy textured, motteled in parts. Sandstone, grey, very fine grained, rounded to subrounded, well 3020 - 3030sorted quartzose, many clear grains, many black shale inclusions, trace green grains, trace amber grains. 3030 - 3040Sandstone, grayish white, very fine grained, rounded, well sorted quartzose, many clear grains, trace black and grey shale inclusions, trace amber grains. 3040 - 3050Shale, multicolored, brick red, green, grey, brown, maroon, chunky, soft to firm, dense, motteled, noncalcareous, earthy textured, motteled. 3050 - 3060Shale, brick red, grey, green, chunky, firm, dense, noncal careous, earthy textured, smooth.

Shale, lt. grey, chunky, blocky, firm, dense, noncalcareous, waxy

Sandstone, dk brown, very fine grained, rounded, well sorted quartzose,

2920 - 2950

3060 - 3070

ttextured.

#### 3079 - Sample Top - Sunburst

- 3070 3080 Shale,mustard yellow,grey,chunky,firm,dense,noncalcareous, Earthy to gritty textured. Many unconsolidated grains in sample pan,very fine grained.
- 3080 3090 Sandstone, white, clear, very fine to fine grained, rounded to subrounded, well sorted quartzose, many clear grains, trace amber grains, few grey chert grains.
- 3090 3100 Sandstone, white, clear, very fine to fine grained, rounded to subrouned, well sorted quartzose, many clear grains, few grey chert grains, trace amber grains, bentonitic.
- 3100 3110 Shale,green,lt green,chunky,firm,dense,noncalcareous,earthy textured Smooth. Mostly Bentonte,tan,cream,soft,lumpy.
- 3110 3120 Shale,dk grey,chunky,blocky,firm,dense,nocalcareous,waxy Textured. Bentonite,white,soft,lumpy.
- 3120 3130 Shale,lt.greyish,grey,chunky,firm,dense,noncalcareous,waxy textured. much Bentonite,white,soft,lumpy. Many coarse grained,angular orange grains in sample pan. Many unconsolidated grains in sample pan.

#### 3135 - Sample Top - Morrison

- 3130 3140 Sandstone, white, tan, clear, very fine to fine grained, rounded to subrounded well to moderately sorted quartzose, many clear and frosty grains. few grey grains.
- 3140 3150 Shale, multicolored, brick red, green, lt green, maroon, grey, "baby poop yellow", chunky, soft to firm, dense, noncalcareous, earthy textured.
- 3150 3160 Shale, brick red, reddish brown, trace yellow above, chunky, soft to firm, dense, noncalcareous, earthy textured, Bentoite, white, soft, lumpy.

3160 - 3170	Shale,maroon,greenish grey,grey,chunky,soft to firm,dense, Noncalcareous,earthy to waxy textured.Bentonite,white,soft.
3170 – 3180	Shale,baby poop yellow,chunky,soft,noncalcareous,earthy textured. Shale,grey,lt grey,chunky,soft firm,dense,noncalcareous, earthy textured.
3180 – 3190	Siltstone, brown, chunky, blocky, firm to hard, dense, very calcareous, tight, no shows. Shale, grey, chunky, soft to firm, dense, calcareous, earthy to gritty textured.
3190 – 3200	Shale,dk grey,chunky,soft to firm,dense,noncalcareous,earthy to gritty textured,sandy in parts. Limestone,tan,buff,sublithoghraphic, dense,tight,very calcareous.
3208 – E Log	Top - Swift
3200 - 3210	Sandstone, brown, very fine to fine grained, rounded to subrounded, well sorted, quartzose, many clear and dark grains.
3210 – 3220	Shale,dk grey,chunky,soft to firm,dense,noncalcareous,gritty Textured. Many very fine grains in sample pan.
3220 – 3230	Sandstone, brown, very fine to fine grained, rounded to subangular, well to Moderately sorted quartzose, many clear grains and few grey grains.
3230 – 3240	Sandstone as above. Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
3240 – 3250	Sandstone, brown, very fine to fine grained, rounded, well sorted quartzose many clear grains. Shale dk grey, chunky, soft to firm, dense, noncalcareous gritty textured

3250 - 3260 same as above.

3380 - 3390 Marlstone as above.

3260 – 3270 Sandstone, brown, very fine grained, rounded, well sorted quartzose many clear and grey grains.

3270 – 3280	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
3280 – 3290	Shale,grey,chunky,platy,firm,dense,noncalcareous,earthy to gritty textured.
3290 – 3300	Shale, grey, chunky, platy, firm, dense, noncal careous, earthy textured.
3300 – 3310	Shale,grey,lt grey,chunky,platy,firm,dense,noncalcareous,earthy Textured.
3310 – 3320	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
3320 – 3330	Shale as above. Shale,tan,light brown,blocky,firm,dense,very calcareous, Slightly gritty textured.
<u> 3331 – Sampl</u>	e Top - Rierdon(Ellis Formation)
3331 - Sampl 3330 - 3340	Marlstone,dove grey,chunky,blocky,firm to hard,dense,very calcareous earthy textured,micropyritic. Marlstone,tan,soft,lumpy,very calcareous. Marlstone,white,soft,lumpy,very calcareous.
	Marlstone,dove grey,chunky,blocky,firm to hard,dense,very calcareous earthy textured,micropyritic. Marlstone,tan,soft,lumpy,very calcareous.
3330 – 3340 3340 – 3350	Marlstone,dove grey,chunky,blocky,firm to hard,dense,very calcareous earthy textured,micropyritic. Marlstone,tan,soft,lumpy,very calcareous. Marlstone,white,soft,lumpy,very calcareous.
3330 – 3340 3340 – 3350	Marlstone,dove grey,chunky,blocky,firm to hard,dense,very calcareous earthy textured,micropyritic. Marlstone,tan,soft,lumpy,very calcareous. Marlstone,white,soft,lumpy,very calcareous. same as above.  Marlstone,dove grey,chunky,soft to firm,dense,very

3390 - 3400	Marlstone, dove grey, greenish grey, chunky, firm to hard, dense, very calcareous, micropyritic.earthy textured. Marlstone, white, soft, lumpy,
	very calcareous.

3400 – 3410 Marlstone,dove grey,greenish grey,chunky,firm to hard,dense,very calcareous,earthy textured,micropyritic.

#### 3416 - Sample Top - Sawtooth

- 3410 3420 Siltstone,lt greenish grey,chunky,firm to hard,dense,very calcareous, gritty to sandy textured,micropyitic,sandy in parts.
- 3420 3430 Siltstone,lt grey,chunky,blocky,firm to hard,dense,very calcareous, micropyritic. Much Pyrite.
- 3430 3440 Siltstone,lt grey,grey,chunky,blocky,firm to hard,dense,very calcareous sandy textured,micropyritic. Much pyrite.
- 3440 3442 Sandstone,tan,cream,very fine grained,rounded,well sorted quartzose,calcareous,many unconsolidated grains in sample pan,no shows.

# 3442 - Total Depth by Driller

# Form No. 4 R10/09 LOCATE WELL CORRECTLY

# (SUBMIT IN TRIPLICATE) TO

ARM 36.22.302 ARM 36.22.307 ARM 36.22.1011 ARM 36.22.1013 ARM 36.22.1414

# MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS MONTANA 59102

$\perp$			BIL	LINGS, M	ONTANA	59102						
			CC	MPLET	ION REF	ORT			/			
							API	# 25	073 /	21872		
Company Al	LTAMONT	OIL & G	AS. INC	Le	ase FIEL	D			ell No.	4-1A		
Address PO			,			ld or Area						
	T BANK, N	/IT 5942	7									
Surface Locat				380	ft. from	E Line,	Sec. 4	т	28N	R 6W		
o PON	IDERA		(N/S)		(1	Elevati	on 4.0	—  — 70' GL	4	,075' KB		
County PON							(S	urface)		(KB)		
Date Spud _	5/19/2009 offormation gi	-	Completed			Complete	110	il, gas, cbr	n, injection,	dry hole, etc.)		
THE	normation gr	vennerewi	11 13 a com	piete and	Signed	1	Vilal	11/		2		
						PRESI	DENT &	CEO	Date	6/30/2010		
						ne			 '3-9000			
For Vertical	Well: To	otal depth	3,468	3 / ft.	Plugged k	ack to _		ft.				
For Horizont	tal or Directio	nally Drille	d Well: E	Enter well	bore and b	ottom hole	e location o	data on p	page 2 of	this form.		
	l natural gas											
					Tubing R							
Well Bore		Strii		0-1-	Length	From	To (MD, Foot)	Cement	Cement To	and a property of the		
8-3/4"	Type Surface	Size 7"	Weight 17#/ft	Grade Ltd	(Feet) 17 jts	(MD, Feet)	(MD, Feet) 726.67 ' KB	(Sacks) 160	(MD, Feet 726.67' H	Control of the Contro		
6-1/4"	Production	4-1/2"	10.5#/ft	API	85 jts	726.67' KB	3440.91' K	60	3440.91'	≺B		
		-										
									-			
101												
			Perfo	rated or C	Open-hole	Intervals						
Well Bore	Open Hole/F	Perf'd Zone Bottom	Holes per foot	•	Size ar	nd Type		Open or Isolated (method of isolation)				
4-1/2"	3,444'	3468'	Driller	Open H	ole - 3-7/8"		Ор	Open				
		3460'	Logger									
× 0.00												
			cidized, Sh	at Franci	d Saucez	od or Cor	nented					
VAL II D	Inter		Treatme		1	and Type of		Max.	Rate	Max. Pressure		
Well Bore	Top 3444'	Bottom 3468'	Driller	пт туре	500 Gal 15		Waterial	(BBLS/Min) 3.0/min		(PSI) 1300#		
H	3444	3460'	Logger		000 001 10							
2												
	-								-+			
	1									100		
Well is produ	cina from		Madis	on/Sun	River Do	lomite		form	ation(s) o	r pool(s).		
	_									1000		
ID SI	harrels o	f oil	MC	F of gas	and	ba	arrels of wa	ater per		hours.		

Initial 10	)-day av	verage pr	oduction	Wai	ting to co	mplete	3rd	porosi	ity		/day	(if take	n)					
Pressur	es (if m	easured)	: Tubing		A CONTRACTOR OF THE CONTRACTOR		psi shut-in											
						psi shut-in												
Formati	on Volu	me Facto								Water Saturation%								
*	J. a																	
	<b>.</b>		Kick-off	The state of the s	Bottom Hole Locations  Total Depth Location, T-R-S From									N/S Line From E/W Line				
Well B	sore	MD	From (Well bore	) MD	TVD	Twp	N/S	Rng	E/W S	ec.	Feet	N/S F		eet E/V				
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Name of the little of						-			_	$\dashv$				$\dashv$				
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-			Markey A. S. Saraha			+	_			$\dashv$								
			William Wall															
					Drill Sten	n Tests												
DST#	From	Interval To	Tool Open (Min.)	Shut-in (Min.)	F.P.	S.I.P.	T		Recov	ery/			Cu	shion	)			
None	FION	1 10	(IVIIII.)	(IVIII1.)														
a vert							+				Name of Parts							
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OTHER DISTRICT	<b>-</b>						$\pm$											
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		Cor	es			1000			Log	s				en militar	وزاد			
Core #	lr From	nterval To	Recove	ry	Log Type							Interval From To						
00.0 #					Gamma F	ay CCL Lo	g		2400'						To 3468'			
		<b>-</b>	None															
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		Formation		MD	TVD			FUIIIa	uon ,			ME	) 	T\	/D			
See Attac	ched																	
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# Sample Formation Tops

Cretaceous	<u>Depth</u>	<u>Datum</u>
Colorado		
Two Medicine		
Blackleaf	1786	+2289
Blackleaf Bentonite Marker	1825	+2250
Blackleaf Sandstone	1830	+2245
Base Fish Scales		
1 <sup>st</sup> Bow Island	1884	+2191
2 <sup>nd</sup> Bow Island	2026	+2049
3 <sup>rd</sup> Bow Island	2134	+1941
4 <sup>th</sup> Bow Island "A"	2367	+1708
4th Bow Island "B"	2413	+1662
Dakota	2539	+1536
Kootenai	2582	+1493
Sunburst	3079	+996
Jurassic		
Morrison	3135	+940
Swift	3208	+867
Rierdon(Ellis Shale)	3331	+744
Sawtooth	3416	+659
Mississippian		
Madison(Sun River Dolomite)		24-
Total Depth:	3542	+633
	3462	2613/

#### CHECK SHEET

Date:	11/5/2007 API Number: 073-21824												
Company:	AltaMont Oil & Gas Inc.												
Well Name:	Jody Field 4-1												
County:	Pondera												
Field:	Wildcat Pondera												
Surf. Location	: 330 FNL 430 FEL NE NE Lot: 1 Sec: 4 Twp: 28 N Rng: 6 W												
Permit	Number: 26160 Drilling Fee:												
Intentio	on to Drill: 11/5/2007 Expiration Date: 5/5/2008												
Minera	ol Ownership: ☑ Private ☐ State ☐ Federal ☐ Indian												
Well T	ype: Vertical												
Propos	sed Depth/Formation: MD: 3450 TVD: Madison												
Drilling	Unit Acres Description:												
Sample	es Required: Received:												
	COMPLETION INFORMATION												
Compl	Completion Date: November 18, 2007 TD: 3545 PBTD: 3463												
	eted As: Dil Well IP / Formation: 168 BOD, O MCFD, OBWD												
	MAdison												
Geolog	gical Well Report: Mud Log:												
Sundry	Notices: Int - Abandon 1/7/09												
O. h	award Danast of Albandan and David Color												
	quent Report of Abandonment: Received: 7-1-10 Approved: 8-17-10												
Electric	PECN. TOD/PEArray Ind PECN-Lithodensity At 17-09 Perforation Log 1 CBL-LOL VOL. GR-CCL Pressure Temperature Log 12-24-09												
	To the tight we the contraction of the tight of the												
Miscella	aneous:												

LOCATE WELL CORRECTLY

(SUBMIT IN TRIPLICATE)

BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA BILLINGS OR SHELBY

RECEIVED
ARM 36.22.307
ARM 36.22.1011
ARM 36.22.1013

MONTANA BOARD OF OIL & BAS OOMS. BILLINGS

# COMPLETION REPORT

		i								,					
Company _	ALTAMON	T OI	L & GAS,	INC		Lease	JOD	Y FIE	ELDS				Wel	ll No	4-1
Address_Po	о вох 2	00 -	CUT BAN	IK MT	5942	7	Fi	eld (c	or Are	ea) W	ILI	CAT	16.0		
The well is	located_	330	ft. from	(N) m (85%) li	ne and	430	0ft. f	(E) rom (	XXX) lis	ne of Se	c	4			
ec3_														4070	' GL
ommence			Novembe												
Vrite the A													A		
	ormation	give	n herewit	h is a c	omplet					/ /			naryo	n this	page is fo
		OIL V		ore da			Signe	4 -	A	Ato	11	1			
ompleted	(oil wel	l, gas v	vell, dry hole)			1.7		PAT		M. MO		LBAN			A Lead
PI# 25- 07	73 - 218	324					Title -	PRE	SIDE	ENT & C	EO				
							Date .	DEC	EMBE	ER 31,	200	8		) big	
				IMP	ORTAN	NT ZO	NES O	F POF	ROSI	ΓY					
		(de	enote oil	by O, g	as by C	, wat	er by W	; stat	e for	mation	if kı	nown)			
From 344	6' to.	345	2'	0 & G			From			_ to					
rom 345	6' to	346	3'	0 & G	-		From			_ to					
From 346			4'					7-4		_ to _ to					Market V
rom	to.						From			_ 10			3		1-1
					C.	ASIN	G RECC	RD							
Size	Weigh Per Ft		Grade	ie Thread		Casing Se		From		То		Sack of Cement			ut and led from
Casing 7"	17#/f		LTD	ST&C		894.41'		0					180 Sacks		s G Cem
4-1/2"			API	ST&C	3.	545! .	(2 = 1 (8))	894	894.41' 3		3454 100		O Sacks Class		s G Cem
1											-				
													in it		140
					T	UBING	G RECO	RD					120	-	
	Si. Tub		Weig		Gra	Grade		ad	Α	Amount		Perforations		5	
	2-3/		4.7#,		J55		ST&C	ST&C 10		8 Jts					
					COM	PLET	TION RI	COR	D						
										to		3545			
Rotary tool															
Cable tools	3545	sea 11 ft	· Pluggeo	1 back	to34	463'	T.D.;	Oper	hole	e from_			to	)	
otal depa			., &						10-		1				
	PERI	FORAT	ions					ACIDIZ	ED, SH	IOT, SAND	FRAC	CED, CE	MENTE	)	3
Inter	rval		Number ar			Inter	rval			Amount of			- 37		
From	То		Size and Ty	уре	Fre	om	То			material O				Pre	ssure
3446'	3450'	3-1	/8" HSC			9									27-17-11
3466'	3470							- 17	-3	No.					
3470'	3474												W		
Well is pro	ducing f	rom	MADISON	N	INIT		PRODU	CTION	V	&A show p	iugs	above			
			els of oil		1	hc	our <mark>s</mark>	le	ing or	flowing)			19.16		
								(pump	ing or	nowing)					
	_Mcf of gas	per	ho	ours.				harra	0-		, w	2.			
				barr	els of wat	er per_		hours	, or		w.C				

СЭЭШС	es (if meas	omen). Tr	cina		i flowing:				psi shut-
avity_	· · · · · · · · · · · · · · · · · · ·	.° API (co	rrected to 6	0° F.)					psi shut-
o-mati	on Volume	Factor	· · · · · · · · · · · · · · · · · · ·	Porosity_	<u> </u>	% Ave	rage Connat	e water	
pe of	trap	<del></del>					<u></u>		
oducii	ng mechani	sm		<u> </u>		. <del></del>			<del>_</del>
				DRILL	STEM TI	ESTS			
Der 1	<del></del>	· · · · · · · · · · · · · · · · · · ·	Tool Open					<del></del>	Combine
D.S.T. No.	From	To	(Min.)	Shut-In	F.P.	S.I.P.	Reco	overy	Cushion
	NONE	·							
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		CORE	es		F			RUNS	То
No.	Internva	ц	Recove	red			rpe CTION LOG		3531'
					ĪŌ	OMPENSATE	NEUTRON		
	NONE					THREE DE	TECTOR	894'	3531'
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			•	ECODMA'	TION REC	CORD			
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From	То				PORMATION		<del>in to the te</del>		10p of Forma
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## RECEIVED

JAN -7 2009

MONTANA BOARD OF ONL & GAS CONS. BILLINGS

## Electric Log Formation Tops

Cretaceous	Depth	Datum
Colorado		
Two Medicine		
Blackleaf	1786	+2289
Blackleaf Bentonite Marker	1825	+2250
Blackleaf Sandstone	1830	+2245
Base Fish Scales		
1 <sup>st</sup> Bow Island	1884	+2191
2 <sup>nd</sup> Bow Island	2026	+2049
3 <sup>rd</sup> Bow Island	2134	+1941
4 <sup>th</sup> Bow Island "A"	2367	+1708
4 <sup>th</sup> Bow Island "B"	2413	+1662
Dakota	2539	+1536
Kootenai	2582	+1493
Sunburst	3079	+996
Jurassic		
Morrison	3135	+940
Swift	3208	+867
Rierdon(Ellis Shale)	3331	+744
Sawtooth	3416	+659
Mississippian		
Madison(Sun River Dolomite)	3445	+630
(Sun raile)	3113	1030
Total Depth:	3539	+536

073-21824

Vancous and the same of the sa								
FORM NO. 22 R7/99	SUBMIT II	N QUADRUPLICATE TO:	ARM ARM	36.22.307 36.22.601	Lease Nam			
MONTANA	ROAPDOE	OIL AND GAS CO			JODY FI		State/Eo	doral):
2535 ST. J	OHNS AVENU	IE, BILLINGS, M	ONTANA 5	UN 1102	PRIVATE		olale/Fe	derai).
		cation for Permit	ONIANA S.	7102	Well Numb			
To:	Drill XX	Deepen	Re-enter		#4-1			
1	Oil XX				Unit Agreer	nent Name	9:	
Operator: ALTA		GAS INC	Other		Field Name	or Wildca	<del>†·</del>	
		GAS, INC			WILDCAT	or maga		
Address PO B					Objective F			
City CUT BANK		MT ZI	P 59427		BOW ISL	AND, SU	NBURS	C & MADISON
Telephone Num	ber 406.873	9000			Section, To			e:
Surface Location	of Well (quarter-q	uarter section and fox	otage measure	ments)	Section County:	4-128N	-KbW	
NENENE-SECT		•			oounty.			
(330' FNL x	430' FEL)	Lot1			PONDERA		D	ECEIVE
		2011					B.	ECETAE
(If directionally drilled, show	halb surface and hallow	Salada di Salada						
Proposed total d		Formation at total of	denth	Elevation	(indicate G	L == I/D\		OCT 1 7 2007
						L or KB)	MONT	ANA BOARD OF
3,450'		MADISON/SUN R			70' GL		& GA	S CONS. BILLIN
Size and descrip	tion of drilling/s	pacing unit   API n	umber of ano	ther well o	on this lease	(if any)	Anticip	ated spud date
40 ACRES	(NE/4) N	ENE						
	U.Z. 17 70						10/	20/2007
Hole size	Casing size	Weight/foot	Grade (API)	Depth		Sacks of Co	oman!	Tunn - 40
8-3/4"	7''	17#/ft	J55	Бери			ement	Type of Cement
			333		650 <b>'</b>	245 sx		Class G
6-1/4"	4-1/2"	9.5#/ft	J55	3	<b>,</b> 450'	100 sx		Class G
Describe Proposed C	nerations:		-					
Altamont Oil Bow Island, casing will i surface. The Open hole lo	& Gas, Inc Sunburst & be cemented e well will gs will be wout equipm	gram of blowout prevent proposes to a Madision forma from surface be drilled wi run from surfa ent will be as vals.	drill this ations. No to approxith air an acceptor TD.	well o DST' imatel d dril	to test is or core y 650' en ling mud	for oil as are passing from cast	and of lanne good ing po	ed. Surface returns to oint to TD.
BOARD USE ON	LY.					1/	11	
pproved(date) No	y 0,5 2007/	Permit Fee \$300	15000	The undersi contained o	igned hereby con this application	ertifies that thon is true and	e informa	ation
y Lew !		Check Number 4060	/11650 5 2008	Signed (Age	Patrick	M. Mont	alban	
CHIEF FIELD	INSPECTOR	Permit Expires —	- 2000					
me ————		Permit Number 46	160	Title	Presider	nt & CEC	)	
HIS PERMIT IS SUBJE ONDITIONS OF APPE TATED ON THE BACK	ROVAL	umber 25- <u>673</u> .	21824	Date	10/15/20	007		
	1							
amples Required: Core chips to addre	NONE ss below, full cores	to USGS, Core Labora Montana Boar	FROM lory, Arvada, CO d of Oil and Gas 2525 St. Johns A	. Required s Conservation	feet to samples must b	e washed, o	fried and	_ feet delivered prepaid to:

SUFFLERICITIES INFORMATION	SUPPI	EMENT	TAI II	NFORMATION
----------------------------	-------	-------	--------	------------

Note: Additional information or attachments may be required by Rule or by special request.

- 1. Attach a survey plat certified by a registered surveyor. The survey plat must show the location of the well with reference to the nearest lines of an established public survey.
- 2. Attach an 81/2 x 11" photocopy of that portion of a topographic map showing the well location, the access route from county or other established roads, residences, and water wells within a 1/2 mile radius of the well.
- 3. Attach a sketch of the well site showing the dimensions and orientation of the site, the size and location of pits, to psoil stockpile, and the estimated cut /fill at the corners and centerstake. (Note: the diagram need not be done by an engineer or surveyor.) Attach a sketch of a top view and two side views of the reserve pit(s), if utilized. The reserve pit sketch must show the length, width, depth, cut and fill, amount of freeboard, area of topsoil stockpile, and the height and width of berms.
- 4. Describe the type and amount of material or liner, if any, to be used to seal the reserve pit. If a synthetic liner is used. indicate the liner thickness (mils), bursting strength, tensile strength, tear strength, puncture resistance, hydrostatic resistance, or attach the manufacturer's specifications. N/A
- 5. Describe the proposed plan for the treatment and/or disposal of reserve pit fluids and solids after the well is drilled. If the operator intends to dispose of or treat the reserve pit contents off-site, specify the location and the method of waste treatment and disposal. (Note: The operator must comply with all applicable federal, state, county, and local laws and regulations with regard to the handling, transportation, treatment, and disposal of solid wastes.)
- 6. Does construction of the access road or location, or some other aspect of the drilling operation require additional federal, state, or local permits or authorizations? If yes, indicate the type of permit or authorization required:

	$X\overline{X}X$	No additional permits needed
		Stream crossing permit (apply through county conservation district)
		Air quality permit (apply through Montana Department of Environmental Quality)
		Water discharge permit (apply through Montana Department of Environmental Quality)
		Water use permit (apply through Montana Department of Natural Resources and Conservation)
		Solid waste disposal permit (apply through Montana Department of Environmental Quality)
		State lands drilling authorization (apply through Montana Department of Natural Resources and Conservation)
		Federal drilling permit (specify agency)
		Other federal, state, county, or local permit or authorization: (specify type)
10	OTICE	S:

#### 1

- 1. Date and time of spudding must be reported to the Board verbally or in writing within 72 hours after the commencement of drilling operations.
- 2. The operator must give notice of drilling operations to the surface owner as required by Section 82-10-503, MCA, before the commencement of any surface activity.

BO	AD	n	111	2	0		V
$\mathbf{p}$	ΑК	u	U.		O	ИI	Y

CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

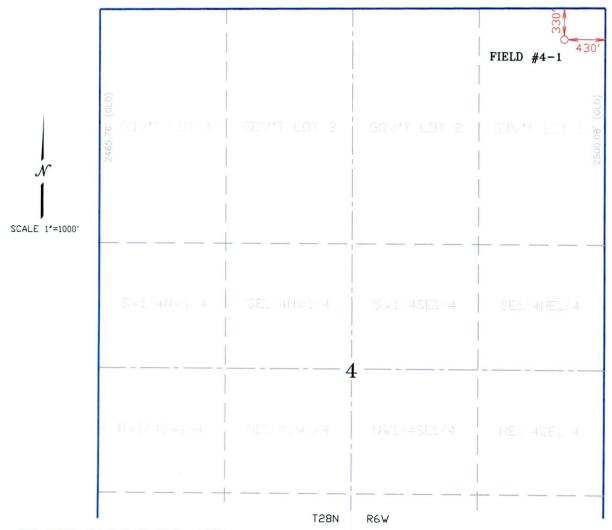
WARNING: Failure to comply with conditions of approval may void this permit.

## WELL LOCATION

OCT 1 7 2007

FIELD #4-1
GOVERNMENT LOT 1 SECTION 4, T28N, R6W, P.M.M.
PONDERA COUNTY, MONTANA
330' FNL X 430' FEL
ELEVATION BEFORE GRADING: 4070'

MONTANA BOARD OF OIL & GAS CONS. BILLINGS



ELEVATION BEFORE GRADING: 4070' BASIS - NAVD 29

GEOGRAPHIC COORDINATES: 48\*13'15.3' N 112\*22'28.4' W (NAD 83 BASIS)

BASE POSITION FOR GEOGRAPHIC COORDINATES: 48°12'38.97587' N 112°22'44.76679' W (NAD 83 BASIS) (NGS CONTROL POINT CONE, THIRD ORDER)

LAND USE: GRASSLAND

NO ATTEMPT HAS BEEN MADE BY THE SURVEYOR TO LOCATE UNDERGROUND STRUCTURES OR BURIED UTILITIES, AND APPROPRIATE AGENCIES AND SURFACE LANDOWNERS MUST BE CONTACTED FOR FIELD LOCATION OF ANY UNDERGROUND STRUCTURES OR BURIED UTILITIES BEFORE ANY CONSTRUCTION COMMENCES.

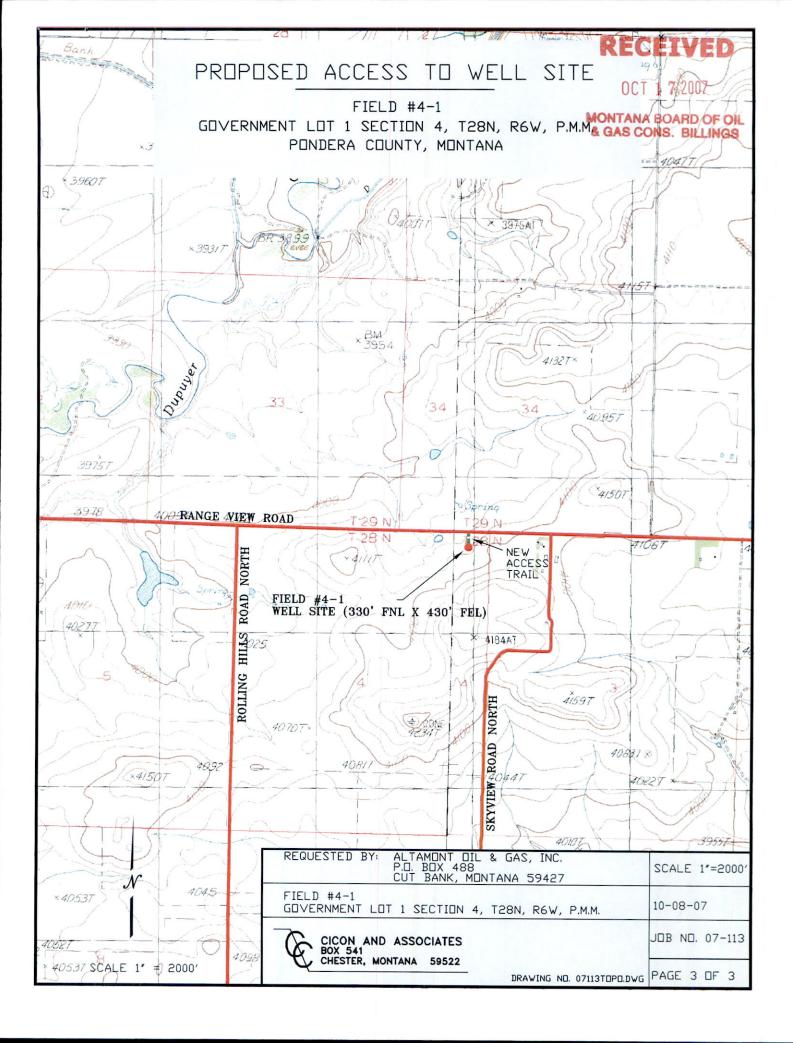
CALL 1-800-424-5555 BEFORE ANY CONSTRUCTION COMMENCES.

NOTE: SUBDIVISION LINES AND GOVERNMENT LOT BOUNDARIES ARE SHOWN FOR DEPICTIVE PURPOSES ONLY AND SHOULD NOT BE USED FOR SCALING OR LOCATION PURPOSES.

ON THE BASIS OF MY KNOWLEDGE, INFORMATION AND BELIEF, I CERTIFY THAT AS A RESULT OF A SURVEY MADE ON THE GROUND TO THE NORMAL STANDARD OF CARE OF PROFESSIONAL LAND SURVEYORS PRACTICING IN THE STATE OF MONTANA, I FIND THE LOCATION OF THE FIELD #4-1 AS SHOWN ON THE SUBJOINED DRAWING.

JOHN M. CICON 4039 LS

REQUESTED BY: ALTAMONT DIL & GAS, INC. P.O. BOX 488 CUT BANK, MONTANA 59427	SCALE 1'=1000'
FIELD #4-1 GOVERNMENT LOT 1 SECTION 4, T28N, R6W, P.M.M.	10-10-07
CICON AND ASSOCIATES BOX 541	JOB NO. 07-113
CHESTER, MONTANA 59522	SHEET 1 DE 3



## RIG PAD SITE

## RECEIVED

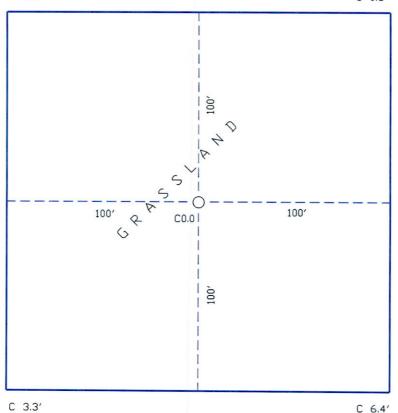
FIELD #4-1
GOVERNMENT LOT 1 SECTION 4, T28N, R6W, P.M.M.
PONDERA COUNTY, MONTANA

OCT 1 7 2007

MONTANA BOARD OF OI & GAS CONS. BILLINGS

F 6.3'

C 0.8'



GENERAL CUTS AND FILLS OF PROPOSED RIG PAD

LAND USE: GRASSLAND

ELEVATION OF LOCATION BEFORE GRADING: 4070' BASIS OF ELEVATIONS: NAVD 29

NOTE:

CUTS AND FILLS NOTED ARE FOR PURPOSES OF DESCRIBING THE GENERAL TOPOGRAPHY OF THE PROPOSED RIG PAD AND ARE NOT INTENDED FOR CALCULATION OF DIRTWORK QUANTITIES OR OTHER CALCULATIONS.



REQUESTED BY: ALTAMONT OIL & GAS, INC. P.O. BOX 488 CUT BANK, MONTANA 59427	SCALE 1'=50'
FIELD #4-1 GOVERNMENT LOT 1 SECTION 4, T28N, R6W, P.M.M.	10-08-07
CICON AND ASSOCIATES	JOB NO. 07-113
CHESTER, MONTANA 59522  DRAWING ND. 07113CDN.DWG	SHEET 2 OF 3

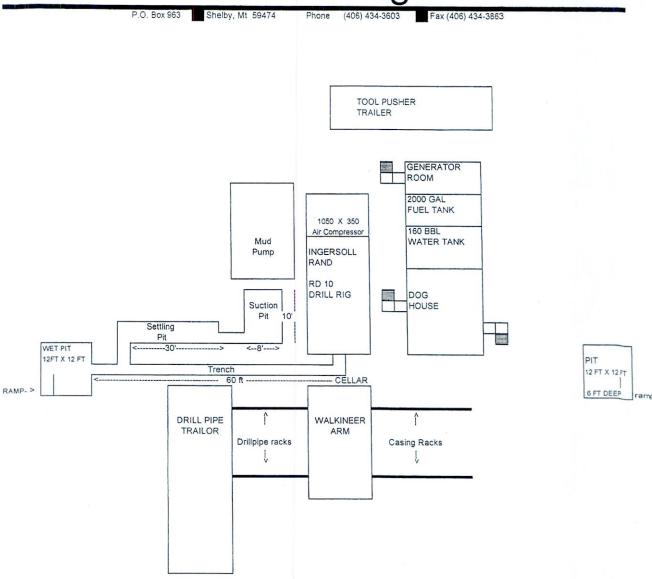


OCT 1 7 2007

## LOCATION LAYOUT

MONTANA BOARD OF OIL & GAS CONS. BILLINGS

# Gasco Drilling LLC

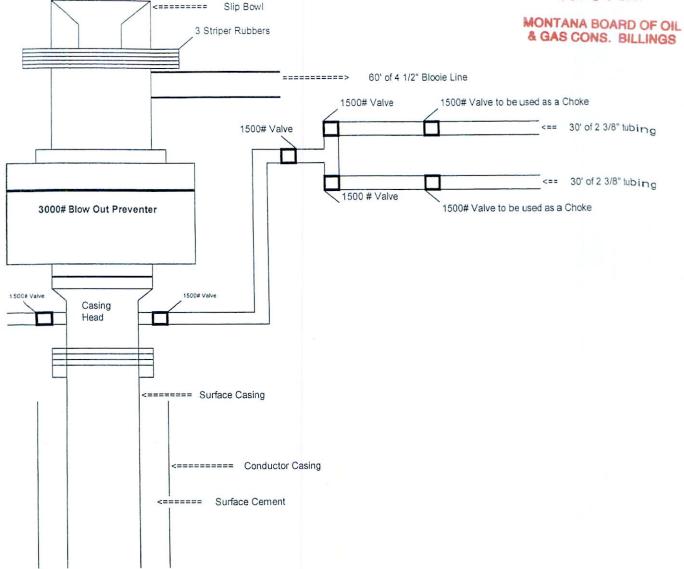


DIMENSIONS OF LOCATION: 200 X 200

SETTLING PIT IS 6' WIDE BY 45' LONG . SUCTION PIT 8' WIDE BY 10' LONG

## RECEIVED

OCT 1 7 2007



BOP STACK

RECEIVED

MAY 2 8 2004

ALTAMONT OIL & GAS, INC

OCT 1 7 2007

MONTANA BOARD OF OIL & GAS CONS. BILLINGS

REGAN OFFSHORE INTERNATIONAL, INC.

Torrance, Calif.

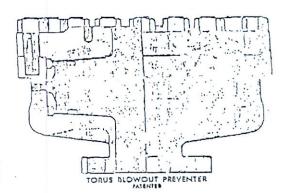
#### REGAN BLOWOUT PREVENTERS

The Regan Torus Blowout Preventer is used primurily on production and workover rigs for well control up to 2000 PSI working pressure

#### DISIGH FLATURIS

- n. The Torus Preventer is designed for mininum height to incillude its use with production and workover rigs.
- b The rubber packer will conform to any object in the well hore. Scaling ability is not affected by minor damage to the inner bore. The packer will Seal on open hale at full working pressure.

The dual packer design increases the reliability of the preventer since the outer rubber is never exposed to the well bore. Under ordinary service, the outer packer is rurely replaced.



 	CIF	ICA	TIC	SHC

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## **B.O.P. SPECIFICATIONS**



FORM NO. 2 R 10/09

Submit In Quadruplicate To:

ARM 36.22.307, 601, 605 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301. 306, 1309, and 141



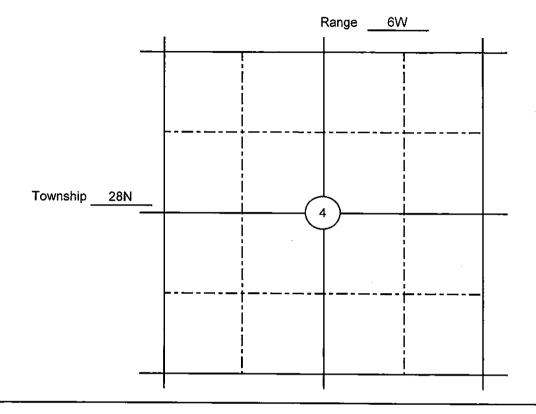
MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE JUL - 1 2010

#### **BILLINGS, MONTANA 59102** INTANA BOARD SUNDRY NOTICES AND REPORT OF WELLS & GAS CONS. BILLINGS Lease Name: Operator ALTAMONT OIL & GAS, INC JODY FIELD Address PO BOX 488 Type (Private/State/Federal/Tribal/Allotted): **PRIVATE** City CUT BANK State MT Zip Code 59427 Well Number: Telephone 406-873-9000 Fax 406-873-2835 4-1 Location of well (1/4-1/4 section and footage measurements): Unit Agreement Name: NENENE (LOT 1) - SECTION 4-T28N-R6W (330' FNL X 430' FEL) Field Name or Wildcat: WILDCAT Township, Range, and Section: SECTION 4 - T28N-R6W API Number: Well Type (oil, gas, injection, other): County: **25** | 073 OIL 21824 **PONDERA** State County Well Indicate below with an X the nature of this notice, report, or other data: Notice of Intention to Change Plans Subsequent Report of Mechanical Integrity Test Notice of Intention to Run Mechanical Integrity Test Subsequent Report of Stimulation or Treatment Notice of Intention to Stimulate or to Chemically Treat Subsequent Report of Perforation or Cementing Notice of Intention to Perforate or to Cement Subsequent Report of Well Abandonment Notice of Intention to Abandon Well Subsequent Report of Pulled or Altered Casing Notice of Intention to Pull or Alter Casing Subsequent Report of Drilling Waste Disposal Subsequent Report of Production Waste Disposal Notice of Intention to Change Well Status Subsequent Report of Change in Well Status Supplemental Well History Other (specify) Subsequent Report of Gas Analysis (ARM 36.22.1222) Describe Proposed or Completed Operations: Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations. Moved in and rigged up service rig and pulled tubing and rods. Tripped tubing into hole and spotted ten sacks of cement at 3325' - 3550'. Pulled 4-1/2" casing at 900' and spotted a 25 sack plug at 990' - 1120' and a 25 sack plug at 850' - 980'. Spotted 20 sacks at bottom of surface 70' - 0'. Cleaned location and rigged down on February 24, 2009. The undersigned hereby certifies that the information contained on this application is true and correct **BOARD USE ONLY** AUG 1 7 2010 6/28/2010 Approved Date Date Signed (Agent) PATRICK M. MONTALBAN, PRESIDENT & CEO CHIEF FIELD INSPECTOR Print Name and Title 406-873-9000 Telephone: Name

#### SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



#### **BOARD USE ONLY**

#### **CONDITIONS OF APPROVAL**

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

ARM 36,22.307, 60 1, 605 1003, 1004, 1011, 1013,1103,1222,1240 1301, 1306, 1309, and JAN - 1417,2009

Submit In Quadruplicate To:

# MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS, MONTANA 59102

MONTANA BOARD OF OIL & GAS OONS. BILLINGS

SUNI	DRY NOTICE	ES A	ND REPO	ORT OF WELLS		_
Operator ALTAMONT OIL & GAS	, INC			Lease Name:		-
Address PO BOX 488				JODY FIELDS		
Address PO BOX 488			<u>.</u>	Lease Type (Private/State/Federal):		-
City CUT BANK State M	T Zip Code	5942	.7	PRIVATE		
Telephone Number (406) 873-558	0 Fax Number (406	6 873	3-2835	Well Number:		-
	,	<u> </u>		#4-1		
Location of well (1/4-1/4 section and fo	otage measuremen	its):		Unit Agreement Name:		_
NENENE (Lot 1) - Section	4-T28N-R6W					
(330' FNL x 430' FEL)				Field Name or Wildcat:		_
ν γ				WILDCAT		
If directionally or horizontally drilled, sho	w both surface and	bottom	hole locations)	Section, Township, and Range:	1	
API Number:	Well Type (oil, gas,	, injectio	on, other):	SECTION 4-T28N-R6W		
25 0 7 3 2 1 8 2 4				County:		_
State County Well	OIL			PONDERA ·		
Indicate below with an X the nature of t	his notice, report, o	or other	data:			_
Notice of Intention to Change plans			Subsequent F	Report of Mechanical Integrity Test		-
Notice of Intention to Run Mechanical I	ntegrity Test		Subsequent F	Report of Stimulation or Chemical Treatment		
Notice of Intention to Stimulate or to Ch	nemically Treat		1	Report of Perforation or Cementing		
Notice of Intention to Perforate or to Ce	ement			Report of Well Abandonment		
Notice of Intention to Abandon Well		XX		Report of Pulled or Altered Casing		
Notice of Intention to Pull or Alter Casir	ng		1	Report of Drilling Waste Disposal		
Notice of Intention to Change Well Stat	us		1	Report of Production Waste Disposal		
Supplemental Well History				Report of Change in Well Status		
Other (specify)			I con	Report of Gas Analysis (ARM 36.22.1222)		
Describe planned or completed week in	Describe Propo	sed or	Completed O	perations:		
necessary. Indicate the intended starting	detail. Attach maps	s, weii-i d opera	bore configurati	ion diagrams, analyses, or other information as mpletion date for completed operations.		ì
Move in and rig up service	e rig, pull t	ubing	g and rods	Trip tubing into hole and s	spot	
ten sack plug at 3460' - 3	3463'. C	ut of	ff and pu	11 4-1/2" casing @ 2800'. Sr	oot	
$^{25}$ sack plug at 2800'. S <sub>I</sub>	pot 25 sack p	lug a	at bottom	of surface (895'). Spot 10 sac	ck	
olug at surface. Clean loc	ation and ri	g dor	wn .			
						- 1

	BOARD U	SE ONLY
Approved	JAN 2 7 2009	
/	Date	
Stew	Sarake	CHIEF FIELD INSPECTOR
	Name	Title

The undersigned hereby cer	ifies that the information contained
on this application is true and	correct:
	(1,11)
12/4/2008	Xet MICE
Date	Signed (Agent)

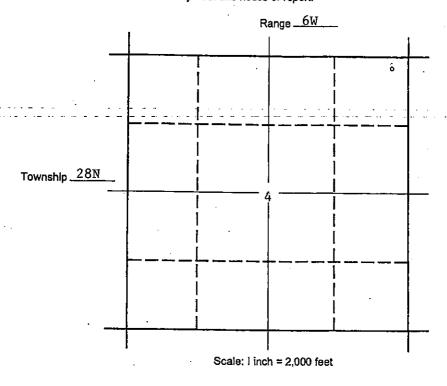
Patrick M. Montalban, President & CEO

Print Name &Title

## SUPPLEMENTAL INFORMATION

NOTE: Additional Information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



#### **BOARD USE ONLY**

#### **CONDITIONS OF APPROVAL**

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

### Montana Board of Oil and Gas Conservation Environmental Assessment

Operator: Altamont Oil & Gas, Inc.
Well Name/Number: Jody Field 4-1
Location: NE NE NE, Lot 1 Section 4 T28N R6W
County: Pondera MT; Field (or Wildcat) Wildcat
Air Quality
(possible concerns) Long drilling time: No, 4 to 5 days drilling time.
Unusually deep drilling (high horsepower rig): No. 3450' TD
Possible H2S gas production: Yes
In/near Class I air quality area: No
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required
under 75-2-211.
Mitigation:
X Air quality permit (AQB review)
Gas plants/pipelines available for sour gas
Special equipment/procedures requirements
Other:
Comments: No special concerns – using small rig to drill to 3450' TD.
Water Quality
(possible concerns) Water Quality
Salt/oil based mud: No, freshwater, freshwater mud system, air, air mist.
High water table: No
Surface drainage leads to live water: No, no drainages nearby. Some pothole ponds
nearby.
Water well contamination: No, closest water well is about 1/4 of a mile to the southeast
of this location and is only 90' in depth. Surface casing will be drilled with air and/or
freshwater mud to 650' and steel surface casing set and cemented to surface from 650'.
Closest water well is about
Porous/permeable soils: No, sandy gravelly soils.
Class I stream drainage: No
Mitigation:
Lined reserve pit _X_ Adequate surface casing
Berms/dykes, re-routed drainage
Closed mud system
Off-site disposal of solids/liquids (in approved facility)
Other:
Comments: 650' of surface casing will be set and cemented to surface adequate
to protect freshwater zones. Also, fresh water mud systems or air to be used for drilling
surface hole.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: No, stream crossings.

High erosion potential: No, small cut, up to 6.4' and small fill, up to 6.3', required.  Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.  Unusually large wellsite: No, 200'X200' location size required.  Damage to improvements: No, surface use is cultivated fields.  Conflict with existing land use/values: Slight  Mitigation  Avoid improvements (topographic tolerance)  Exception location requested  X Stockpile topsoil  Stream Crossing Permit (other agency review)  X Reclaim unused part of wellsite if productive  Special construction methods to enhance reclamation  Other  Comments: Access will be over existing county road, Barrett FLDS. A short road will be constructed, about 300' into this location. Drill cuttings will be buried in the unlined cuttings pit. Drilling fluids will be allowed to evaporate in the pits. No special concerns
cuttings pit. Drilling fluids will be allowed to evaporate in the pits. No special concerns
Health Hazards/Noise
(possible concerns) Proximity to public facilities/residences:Closest residence buildings about ¼ of a mile to the east of this location.  Possibility of H2S: Yes Size of rig/length of drilling time: Small drilling rig/short 4 to 5 days drilling time.  Mitigation:X_Proper BOP equipment Topographic sound barriers H2S contingency and/or evacuation plan Special equipment/procedures requirements Other: Comments:No concerns
Wildlife/recreation  (possible concerns)  Proximity to sensitive wildlife areas (DFWP identified): None identified.  Proximity to recreation sites: Lake Frances about 7.5 miles to the northeast.  Creation of new access to wildlife habitat: None identified.  Conflict with game range/refuge management: None identified.  Threatened or endangered Species: None identified.  Mitigation:  Avoidance (topographic tolerance/exception)  Other agency review (DFWP, federal agencies, DSL)  Screening/fencing of pits, drillsite  Other:  Comments: Private surface lands. No concerns

Historical/Cultural/Paleontological

(possible concerns)
Proximity to known sites: None identified, private surface.
Mitigation
avoidance (topographic tolerance, location exception)
X other agency review (SHPO, DSL, federal agencies)
Other:
Comments: Private surface. No concerns.
Social/Economic
(possible concerns)
Substantial effect on tax base
Create demand for new governmental services
Population increase or relocation
Comments: No concerns.
Remarks or Special Concerns for this site
Well is a 3450' Madison Formation test.
Well is a 3430 Madison Formation test.
Summary: Evaluation of Impacts and Cumulative effects
No, significant impacts expected, some short term impacts are expected, but should be
able to mitigate these short term impacts.
I conclude that the approval of the subject Notice of Intent to Drill (does/does not)
constitute a major action of state government significantly affecting the quality of the
human environment, and (does/does not) require the preparation of an environmental
impact statement.
Propored by (BOCC): Steven Seeds:
Prepared by (BOGC): Steven Sasaki (title:) Chief Field Inspector
Date: October 18, 2007
Date. October 10, 2007
Other Persons Contacted:
Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Pondera County water wells
(subject discussed)
October 18, 2007
(date)
If location was inspected before permit approval:
Inspection date:
Inspector:
Others present during inspection:

CONSERVATION
OF THE STATE OF MONTANA NOTICE OF BEFORE THE BOARD OF OIL AND GAS INTENTION TO APPLY FOR PERMIT TO DRILL OIL AND GAS WELL

In the Matter of the application ALTAMONT OIL & GAS, INC

for a Permit to Drill an oil and gas well. Name and address of Applicant: ALTAMONT OIL & GAS, INC

PO Box 488

Cut Bank, Montana 59427

 Legal Description including County and Approximate Footages of Surface Location of Proposed Oil nd Gas Well: ( and projected bottom-hole location, ii directional or horizontal well) NENENE-Section 4-T28N-R6W and Gas Well:

Pondera County, Montana (330' FNL × 430' FEL)

Total Depth Proposed to be Drilled: 3.450

Notice is hereby given that an application for permit

mand an opportunity to be heard by the Montana Board of Oil and Gas Conservation concerning the application. SUCH DEMAND FOR HEARINGS MUST BE RECEIVED BY THE MONTANA BOARD OF OIL AND GAS CONSERVATION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) DAYS AFTER THE DATE OF PUBLICATION OF THIS NOTICE, OR THE APPLICATION WILL BE ACTED UPON BY THE BOARD'S PETROLEUM ENGINEER WITHOUT HEARING. A DEMAND MUST: (1) SET FORTH THE NAME, ADDRESS AND TELE-PHONE NUMBER OF EACH INTERESTED PARTY. to drill an oil and gas well at the surface location set forth above to the depth as stated will be filed with the SURROUNDING THE PROPOSED WELL, AND THE REASONS WHY A HEARING IS SOUGHT; (2) BE SERVED UPON THE APPLICANT BY COPY MAILED OR FAX TRANSMITTED TO THE ADant to Rules 36.22.601 and 36.22.604, Administra-tive Rules of Montana, an interested party may de-Montana Board of Oil and Gas Conservation. Pursu-

Montana Board of Oil and Gas Conservation 2535 St. Johns Avenue DRESS SET FORTH ABOVE.

Illings MT 59102

Office: (406) 656-0040 Fax: (406) 655-6015 October 21, 2007

# AFFIDAVIT OF PUBLICATION STATE OF MONTANA,

County of Lewis & Clark,

MONTANA BOARD OF OIL & GAS CONS. BILLINGS

Beverly Allison

Being duly sworn, deposes and says:

That she is the principal clerk of the Independent Record a newspaper of general circulation published daily in the City of Helena, in the County of Lewis & Clark, State of Montana, and has charge of the advertisement thereof:

That the Oil & Gas - Altamont

a true copy of which is hereto annexed, was published in said newspaper on the following dates: viz .:

October 21, 2007

publication(s) making in all.

Swerly & allison

day of October

Subscribed and sworn to before me this\_

. 2007.

Kremany

NOTARY PUBLIC for the State of Montana My commission expires 8-15-2010 Printed Name: Rose Marie Farr Residing at Helena, Montana

(NOTARIAL SEAL)

STATE OF MONTANA)

County of Pondera) ss.

# Affidavit of Publication

Take H Jep John H Lee
being duly sworn upon his oath says: That he is the Publisher of "The independent-Observer," a weekly new spaper of general circulation, published weekly at Conrad, in the County of Pondera, State of Montana.
That the notice hereunto attached was published in the said "Independent-Observer" once each week for D. D. Successive weeks.
That the first publication of said notice was on the
That the last publication of said notice was on the
That the said notice was published in the regular and entire issue of every said "Independent-Observer" during the period and time of said publication, and in the newspaper proper, and not in a supplement.  Title: Publisher
Sworn to and subscribed before me this  25 day of October 20.97  Nancy Zelenka  Notary Public for the State of Montana, residing at Contact Montana My commission expires  June 1, 2010

#### **LEGAL NOTICE**

BEFORE THE BOARD OF OIL AND GAS CON-SERVATION OF THE STATE OF MONTANA in the Matter of the application of )NOTICE OF )INTENTION TO APPLY

FOR PERMIT TO DRILL ALTAMONT OIL & GAS, INC OIL AND GAS

WELL for a Permit to Drill an oil and gas well.)

1. PO Box 488,

Cut Bank, Montana 59427

2. NENENE-Section 4-T28N-R6W (330' FNL x 430' FEL) Pondera County, Montana

3. Total Proposed Depth: 3,450' Notice is hereby given that an application for permit to drill an oil and gas well at the surface location set forth above to the depth as stated will be filed with the Montana Board of Oll and Gas Conservation. Pursuant to Rules 36.22.601 and 36.22.604, Administrative Rules of Montana, an interested party may demand an opportunity to be heard by the Montana Board of Oil and Gas Conservation concerning the application. SUCH DEMAND FOR HEARING MUST BE RECEIVED BY THE MONTANA BOARD OF OIL AND GAS CONSERVATION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) DAYS AFTER THE DATE OF PUBLICATION OF THIS NOTICE, OR THE APPLICATION WILL BE ACTED UPON BY THE BOARD'S PETROLEUM ENGINEER WITHOUT HEARING. A DEMAND MUST: (1) SET FORTH THE NAME, AD-DRESS AND TELEPHONE NUMBER OF EACH INTERESTED PARTY, THEIR OWNERSHIP INTEREST IN THE LANDS SURROUNDING THE PROPOSED WELL, AND THE REASONS WHY A HEARING IS SOUGHT; (2) BE SERVED UPON THE APPLICANT BY COPY MAILED OR FAX TRANSMITTED TO THE ADDRESS SET FORTH ABOVE.

Montana Board of Oll and Gas Conservation 2535 St. Johns Avenue Billings MT 59102 Office: (406) 658-0040 Fax: (406) 655-6015 Published: October 25, 2007

OCT 2 6 2007

ALTAMONT OIL & GAS, INC

## RECEIVED

NOV 1 3 2007

MONTANA BOARD OF OIL & GAS CONS. BILLINGS

## SPUD INFORMATION

WELL NAME: Jody Field 4-1
API#: 25-073-21824
LOCATION: S 4 T 28N R 6W (Twp-Rge-Sec: 1/4 1/4)
(Twp-Rge-Sec. 74 74)
SPUD TIME: 4:30 pm Actual D
DATE:
DRILLING COMPANY: Gasco
RIG#:5
CALLER'S NAME: Bud Postma
COMPANY NAME: altamont Oil & Gas
OTHER: Bill Halvorson tacked to Bud
Postma & Pat Montalban on 11-7-07
and found out spudded - did not
call in -
Pat Montalban got verbal ok to spud
from Billings

## RECEIVED

## Stimulation and Remedial Cementing Service Report



SERVICE TICKET

# 9132182

	HAM at	0:1+	Com			Well Name	1 + 11	11 )		Job Date	,		
Client Re	presentative	Ulli	045				y Field			Job Type	3/07		
Well D	lata:					Sec. 4	1-1281	V-R6W	/	Aci	3 107 of Sq.z.		
	cription	Size	Weight (lb/ft)	Grade	Max. Press.	Т	rue Measured	Denth (TMD)	Capacity				
Tubing		(in)		Grade	(psi)	Sta	art (ft)	End (ft)	(bbis)	Pi	ackers and Worko Type	Ver Tools	
ubing		23/8	6,5			KI	2	3475		Production	n Packer		
										Retrievable	e Packer		
asing		4/2	10.5			KR	5	3475		Cement Re	etainer		
										Bridge Plu	g	11	
erfora	tions/OH					346	66	3474			njection Pack	er	
Formal	tion Data:												
	Name			Туре		Well Ty	ре	Temp (°F)	Pressure (psi)	Height (ft)			
									(pol)	Gross	Net (ml	0) (	
1110	nd Cement												
Ilbore F	1 1/1	Density		sity: (lb/gal)				Temp	: ('F) Water:	Bulk:		lurry:	
Sacks	(bbls)	(lb/gal)		Description		% - A	dditive	% - 1	Additive	% - Additiv	/e	% - Additive	
	25090	1,	15%	HCL									
	ent Report:	Processor	(z-1)		Stage	To 1-1							
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ersonn	el & Equipm	ubular	Annular	(bbls/min)	Volume	Volume	Formation	Safety Me	eting <u>Held</u> Test	ne Requested	+a,		
ersonna aployee	el & Equipm	nent:	Annular	(bbls/min)	Volume (bbls)	Volume	Formation	Safety Me	eting <u>Held</u> Test	ne Requested	+a,		
ersonna aployee	el & Equipm	ment: Berger	Annular	Rod	Volume (bbls)	Volume (bbis)	Formation	Safety Me	eting <u>Held</u> Test	ne Requested	+G, Fir Bin # M	les Git	
ent 1	el & Equipm	nent: Berger	Annular	Rod 1746 90	Volume (bbls)	Volume (bbis)	Formation	Safety Me	eting <u>Held</u> Test	ne Requested	Fir Bin # M Bin # 20		
ersonna aployee	el & Equipm	ment: Boryer	Annular	Rod	Volume (bbls)	Volume (bbis)	Formation	Safety Me	eting <u>Held</u> Test	ne Requested	# Fir Bin # M Bin # 20 MA	les G12,	

## Stimulation and Cementing Additional Data



SERVICE TICKET

# 9132182

MONTANA BOARD OF OIL

ent	Time	110330	ıre (psi)	Rate	Stage	Total	Injected in	
#		Tubular	Annular	(bbls/min)	Stage Volume (bbls)	Volume (bbls)	Injected in Formation (bbls)	Remarks
					(00.0)	(DDIS)	(DDIS)	
								23/3 tub. 4.7# 4.5 cus. 9.5#
+								Rig in Sunjel
-								The same
1	11:25	10			1	10	10	T:12 1 1 A
1	1:37	10			1	10	10	F. II hole fresh water
	1:45	10			-/-	6 13.4	16	Fill hole fresh water Pump acid down tubing Displace acid to perfs.
- 1"	. 15	10			_/	13.4	29,4	Displace acid to poets
-								/ / / / /
-								Pin out all ide
								Rig out pull 18 joints
								Set Packer
13	7;36	500			2			
10	120	300			1.3	1.5	1.5	fress, we annulus
_								Riess, up annulus Rig into tabing
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10	2:40	1000			1.5	8	8	D: :1 :1 0
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## Schlumberger

Schlum orger Technology Corporation 300 S \_\_\_\_\_nberger Drive, Sugar Land, TX 77478

## Sales Order

Islas Order	Sales Order Osta	Floid Service Order	12/01/2007	Term	5	Net Payable up	oon Receipt
1663986	12/31/2007	11911690				Net rayable up	
Bill To:			Correspondence Ad	ddress:			
MOUNTAIN V PO Box 200 CUT BANK, M	EW ENERGY, INC T 59427 US					2 West	
			Tax Registration N	umber: 22-	169266.	1	
Customer PO	Customer A	FE	Contract			•	
0		0	-			0	
Vell Nama & Number	FIELD JODY 4-1		Field		CRO	CKER SP	
Vall Location			Offshore Zone/Block				
A	4-28N-6W		State			Price Reference	
County/Parlah/Borough	Pondera			лт		L3-US	Land Sept 2008
Customer Job Representation	e		Customer Office Repri	sentitive			
	PATRICK MONTALB	AN		Quantity	иом	Unit Price	Amount
Material	Description						
811101053 6XFLATCHL 6XSERCHGD	<b>SET-8 - ND S</b> Service Flat C Service Depth		•	1.00 1.00 3,544.00	EA FT	441.96 0.18	990.00 1,250.00
Gross Price Discount/Surchs	,	ondige.					2,240.00 -1,240.00
Total							1,000.00
61050801 6XDEPCHG 6XOPECHG 6XGRDEPH-1 6XGROPE-1 6XOPECHMAP	Depth Charge Operation Cha GR in Combo	irga Depth Charge (descent= Ope Charge (descent = 1	1)	1.00 3,544.00 868.00 3,544.00 868.00 866.00		0.24 0.28 0.07 0.07 0.36	3,189.80 900.00 956.88 233.82 1,160.44
Gross Price Discount/Surcha Total	erge						6,440.74 -4,690.74 1,7 <b>5</b> 0.00
61HW338PJ3406H 6XDEPCHG 6XCARLEN 6XELECDET 6XSHOTCHG Gross Price Discount/Surcha	Depth Charge Perforating Ca Perforating El Charge Per S	irrier Length Charge ectric Detonation	HMX,6epf	1.00 3,544.00 4.00 1.00 17.00	FT FT EA EA	0.07 50.30 43.57 58.39	1,169.52 896.00 194.00 4,420.00 6,679.52 -5,179.51
Total							1,500.01
61110300 6XBLUMAST		rane and Mast Charges Blue Streak Mast		1.00 1.00	DAY	350.00	350.00
Gross Price Total							350.00 350.00
61110200PR 6XPRES0-1	PO-RSR Pac Flat Charge p	k <b>Off and Riser</b> er Day, P<1KPsi	SERCE (CO)	1.00	DAY	415.00	830.0
Gross Price Discount/Surch	arge		RECENTED				-415.00 418.00
Total		J.	AN 07 2000				,
			MANUFAL CALEDO	11. CC.			

## Sales Order

Sales Order	Sales Order Date	Fleid Service Order	Service Data	Terms		
1663986	12/31/2007	11911690	12/01/2007		Net Payable upor	
Material	Description		Quant	ity UON	Unit Price	Amoun
61110200MC 6XWHCON	WHE-MISC M Flat Charge -\	lisc Pressure Related Ch. Wellhead Connection/Trip	01900	00 00 EA	272.50	545.00
Gross Price Discount/Surc						545.00 -272.50
Total						272.50
61110500CR	CREW - Crew Mileage Char	/ Miscellaneous Charges	906	00 00 ME		6,350.4
6XMILECH Gross Price Discount/Surc		ges				8,350.43 -8,350.43
Total	, 50					0.00
61110500CF 6XMILECH	CREW - Crev Mileage Char	v Miscellansous Charges ges	1 252	<i>00</i> 00 ME		858.80
Gross Price Discount/Surc	harge					856.80 -856.80
Total						0.00
61110105F 6XFS3		uel SurCharge 18 #2 Diesel \$2,50-3.00 3%		00 00 EA	212.49	212.4
Gross Price	(.					212.49
Total						212.45
Service total	before tax					5,500.00 5,500.00

RECEIVED 8005 TO MAL MOUNTAINVIEW ENERGY LTD

A) Inc. 200, 505 - 2nd Street, SW Calgary, Alberta, Canada T2P 1N8

Telephone: (403) 269-1420

JUN 1 6 2009



## SERVICE TICKET 9139027

This service ticket is not an invoice; pricing is subject to review and change without notice.

A	to ment all	R Cock	Well Name	4-1.			Job Date	T .	
Address	to ment Oil	0 66.5	Location				Service Poin	June O	2
5	5x 482		Sec 4/	TOBA	R	66	Pricing Area	State	
			Jan 1	Montal State	60	7			211
City	Province	/State Postal/Zip Code	Job Type			V	AFE/PO#		
Cut	Bonk m	T 59427	Aciel	12	15	Ponde.	- 4		
District		uipment & Material Typ	oe .	)] Co		Quantity	Unit Price	Amour	nt
	Travel Charge							PETME	1 500
	Service Charge						0 // 65	- E # A E	1.0
	AS Per	Biel					JU	<b>- 6</b> 2009	
							MONTAN	A BOARD O	F O#
42	Sonjel Pun	Ding Chang				lea	3828	ONS BILLI	Nae
1	Sanjel Pum, Includes Trave	, 500 ga 1 Acie)	,						
	delivery & f	umpins							
	. 0								
A2	Pumpone	Trace		1395		Maria II.	45076	1111	
12/	Standby 1	Come Proces	25.4.4	1390			285-1/1.	n/c	
70	- Line of	Tire (cimp	Crtit	1010				(5)0	00
						1 12 11/6	21. 0285	570	
	6.								
_		13/				FIE	LD ESTIMATE	4370	00
1	14 longliton	look the	□ Cementin	g - Prim.	×	Cementing - Re	m.		
		o de la	□ Coiled Tul	oing		Nitrogen			
1	Hemes / Fre	16, 4-14	□ Stimulatio	n		Fracturing	- COLUMN		
7	2 B		□ МРСТИ		0	Other			
Т	his space is reserved for the Clier	nt Coding Stamp.	RLFIETT	Sa	iles 1	Sales :	2		
	aller Jul! 2		1 Ven	000	631	This signature confirms on the reverse of this	that have read and comply w	with the terms and condition	ns as noted
LX	Cellent Ja. X	1 4/160° / (Cu-5)	1. 1.2		=/	x Air	Wolli		
					191	000	1000		

## Stimulation and Remedial Cementing Service Report



## SERVICE TICKET

# 9/39027

Client Name	4 /	1:/ *	Ges			Well Name	6 4	-10			Job Date	) J.	ne o	9
Client Benresentative											Job Type	1	1 -	-
	Joc 1	nonta	bon			Location Sec 4	Ta	3n R	6 W		,,,	ACIO	Spor	ezc_
Well Data:	Size	Weight		Max. F	Drace	True	Masurad	Depth (TMD)	C	apacity		Packers ar	nd Workover Too	ols
Description	(in)	(lb/ft)	Grade	(p:		Start		End (ft)		bbls)		Туре		TMD (ft)
Tubing	23/2	41.7	5.55			0		343	3		Product	tion Pack	er	
										*:	Retrieva	able Pack	er	2940
Casing	4/2					0		3445	2		Cement	Retainer		
	1 0								1		Bridge	Plug		
Perforations/OH	6/4					344	7	3460	,		Selectiv	e Injectio	n Packer	
	G 17					577	7	·) 7(el	_			•		
Formation Data:														
Name			Туре			Well Type		Temp	Pressi		Heigh		Permeability	
4.4			туре		+	203 11		(°F)	(psi	)	Gross	Net	(mD)	(%)
Modison						011								
Fluid and Cement		D						Town	- (°F) W			Bulk:	Clarent	
Wellbore Fluid: Type			nsity: (lb/ga			10,7700 (10,000)			p: (*F) W	ater:		T-07-15-02	Slurry	
# Sacks (bbls)			Description	on		% - Ad	lditive	% -	Additive		% - A	dditive	% -	Additive
12	8.4	157	e HCI			115 941	41-	1 2901	ASA	.3	1501	0-2	26#	154-1
			_									•		
												,		
Fluid Compatibilit	50									V s		•		
	ty Testing*:	(%	HCI Equ	ıivale	nt)		c	Compatibility	/ Tests:	V 1				
cid Titration:		(% Pass: 🗆		uivale ail:	nt)	N/A		Compatibility		٧ ,	Ti	me at BH	T:	m
cid Titration:			F			N/A N/A	□ N				Ti	me at BH	T:ail: □	10000
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acid Titration: stability: ron Control (Live mulsion Break T	Acid): Fime: L	Pass:	F n	ail: ail: nin.			O L	lesh Size: _ live Acid: Spent Acid:			Pass:	me at BH F	ail:	mi N/A N/A
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tability: con Control (Live finulsion Break Timulsion Break Time freatment Report Freatment Report fine fine fine fine fine fine fine fine	Acid): Frime: L Step by: Pressure Tubular  1750 350 350 350	Pass:  Pa	Rate (bbls/mir	ail: ail: nin. nin.  S Vc (t	Stage solume bbbls)	Total Volume (bbls)	S Injected Formatic (bbls)	Arrive of Safety I Pressur	on Locat Meeting The Test  HCI  HCI  HCI	ion - T He i DC	Pass:  Pass:  Remime Required  A for factors  Remime Required  Remime Remime Remime Required  Remime Remim	arks ested:	ail:   ai	N/A N/A
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<sup>\*</sup> Detailed protocols for Sanjel's compatibility tests are available on request.

## ALTAMONT OIL & GAS, INC

PO BOX488

CUT BANK, MONTANA 59427

#### FACSIMILE TRANSMITTAL SHEET FROM: TO: Carla Barringer Steve Sasaki DATE COMPANY: TUESDAY, FEBRUARY 17, 2009 Board of Oil & Gas Conservation TOTAL NO. OF PAGES INCLUDING FAX NUMBER: COVER: 2 (406) 655-6015 SENDER'S PHONE NUMBER: PHONE NUMBER: (406) 873-5580 Re: Schlumberger Ticket YOUR REFERENCE NUMBER:

(406) 873-2835

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY☐ PLEASE RECYCLE

NOTES/COMMENTS:

Perforating of Jody Fields #4-1

Hello Steve:

Following is the ticket from Schlumberger for the Jody Fields #4-1. Maybe you can tell that they perforated and what the interval was?

Thank you,

ALTAMONT OIL & GAS, INC

Carla Barringer

Date	-23-0	(406)652-4400	COMP	ETITIO E SERVICES		069 Niehenke Ilings, Monta		
INVOICE #	1320	ELEASE/LOCATION	Jady	Field	#4-1			
STATE _	Mon	tona coun	TY Ponc	Deca	LEGAL _	NEN	F 4-2	8N-6W
		2 KB ELEVATION 40						
COMPETIT	ION PERSONN	EL 5 Seifert	JBO	ion A	Braiss	1 /	/ / /	ist Bank M
		nont Oil 86			(77	5 1/1		- CISIONE I
					ВУ С	telel	alt	
ADDRESS	Competitio	n Wireline Services is requeste	ed to perform the fol	lowing services	according to the terr	ms printed on	the reverse of this	order.
3(50		ITEM		AMOUNT		INF	ORMATION	
(5)		/ICE CHARGE: Tru			Casing	Lb/Ft	From	To 9941
	e Loggin	ng unit@	per mile		4.5"	9.54	Surface	3545
	Pickur Mast/o	/ICE CHARGE:	per mile per mile					
22	600 \$	+ Plugist CIBP			Fluid /1007/85	رر.		
Depth Oper.		463'1					evel (surf) are from (check	One):
in in	602 P	in operation a	CIEP		кв			Prev. Logs
Service 🛶		rtorate W3/81	1PSICE		CWS TD	R	Driller TD _	3545
Depth Oper.		shors			Plug model Pla	och 11 s	Size 350	Depth 34631
-		~Brasel 4			Packer	8	Size	Depth
Service						PER	FORATIONS	
Depth Oper.					3446 · 3	15/5	(4) 4	PF Total #
					2710 3	100		11
Service Depth								
Oper.								
Service								
Depth		RECEIV	/ED					
Oper.		EED @ 00	100					
Service		FEB <b>6</b> 20			TOTAL PERF	ORATIONS:	17 titan	19gram
Depth		MONTANA BOARI & GAS CONS. BY	LLINGS		AFE #:		Pro	pedol
Oper.					APIA25	-073-	21824	
Service					Remarks:			
Depth								
Oper.	EQU	IPMENT, RENTALS, PERS	ONNEL				/	/
				1.		h. 1.	anolihio	104
4600	Pasche	Charge for Control / fox	-1136			1 1	1	1
1316	11653416		btotal			1 Hame	A Jed	12 Al-1
		C.	14		>		7	0 1
	- 1	MATERIALS dis	xount Z		8	(d)	1/2 Dod	of flat
		5	Istoial			0/1	1 /	4/6/7/14/
4518	Miles	= 80 miles	*	9	7	Le to	rate P3	40-5450
(215	1-113	5 Charge 3 field	total		5			
					<i></i>			
		Sub tota	al			01	m ./ 1	
		Other TOTAL (	CHARGES		Witnessed by: 🔏	Stark	rentall	an
		Sales Ta	ax		Simpoundin VVO		(Please Print)	
		TOTAL	CHARGES .					

Date 2-Jan-2008 (406)652-4400 7069 Niehenke Ave. Billings, Montana 59101 #4-1 JOBY FIELD INVOICE #12145 LEASE/LOCATION \_ COUNTY PONSERA LEGAL NE.NE 4-28N-6W STATE MONTANA ELEVATION 10 70' KB ELEVATION 4075" \_\_\_ DRILLER TD 35159 FIELD COMPETITION PERSONNEL J.B. CONNEL J. BROWN S. SEIFERT / A. BROWN ALTAMENT DIL & GAS. ADDRESS Competition Wireline Services is requested to perform the following services according to the terms printed on the reverse of this order. THUCKEN ITEM INFORMATION Casing Lb/Ft 4501 SERVICE CHARGE: TRUCK From To 17 Surrac SERVICE CHARGE: 9.5# 3545 SURPACE Logging unit \_ per mile Pickup @ per mile Mast/crane @per mile Service ALSD FERFERAIE W/ Fluid allwaren Level (surf). Depth 3474 1 Competition measurements are from (check One): Oper. Prev. Logs X 645 CWS TD 3574 Driller TD 3545 Service Depth Plug model \_ Size Depth Oper. Packer Size \_\_\_ Depth **PERFORATIONS** Service Depth Intervals SPF Total # Oper. 3470-3474 Service Depth Oper. Service Depth Oper. TITAN TOTAL PERFORATIONS: 17 Service prospector" Depth AFE #: AF.I : Oper. 25-073-Remarks: Service Depth Oper EQUIPMENT, RENTALS, PERSONNEL 4592 PRESSUR CONTROL LUBRICATER MITTE Discourt SUBTOMO **MATERIALS** 4518 EHES chy 4504 MILEAGE: tak. 80 FIELD TOTAL

> Sub total Other TOTAL CHARGES Sales Tax

TOTAL CHARGES

Witnessed by: PATRICK MONTHL BAN

Original - Please pay from this invoice - Due 30 days from above date.

Date 12-	-5-07 (406)652-4400 COMP	ET ITION	7069 Niehenke Billings, Monta		
INVOICE # 1	12132 LEASE/LOCATION Jodes				
STATE	Mostana county Pon		NEN		2
ELEVATION_	4070 KB ELEVATION 4075 DRII	LLER TD 3450 FIELD	Wilde	at /	/
COMPETITIO	ON PERSONNEL 5 Scifert, A	Brown	UNI	T# 1115 Cc	+Bank
COMPANY _	111 1012606	BY	Delien	sale.	1
		51			
ADDRESS _	Competition Wireline Services is requested to perform the fo	following services according to the		the reverse of this or	der.
4500	SERVICE CHARGE: Truck	Casing	Lb/Ft	From	То
		7"	17#	Suffece	
	SERVICE CHARGE:	_45	9.5#	Surface	3545
	Mast/crane				
	533 CCL logito locate partial co	Fluid A	ter/oil	Level (surf)	IR
Depth Oper.	2800 parational		measurements	s are from (check C	One):
40	592 Prossuccontrol Rick off		× ×		Prev. Logs
Service		CWS TD _	10/	Driller TD	3450
Depth Oper.		Plug model		Size	
		Packer	-	Size	Depth
Service			PEF	RFORATIONS	
Depth Oper		In	tervals	SP	F Total #
Service					
Depth Oper		-			
Service	Int length to look	tu			
Depth Oper	Int complet 50. (of	100			
	14/1/	# TOTAL P	ERFORATIONS	3:	
Service	11 Hims 1 Trele	91			
Depth Oper	(600 11)	AFE #:_	25 - () 7	3-218:	24
	frad (osin feel to	Remarks:			
Service Depth	1050	Run	CCL in 1	when to 28	20'
Oper.					
	EQUIPMENT, RENTALS, PERSONNEL	Pick	up cas	ing log	1500 tosus
	Subtotal				
	Subtotal	Pick	up casiv	g to 23"	ing 1500 to su
	Jestern				
	MATERIALS			RECE	IVED
4518	EH 35 Charge Milecuse 90mle ini			DEC 1	2 2007
(50)	Mileage 90mle mi	-		MONTANA BO	DARD OF OU
				& GAS CONS	BILLINGS
	Sub total	110	D+-	1 Martil	haza
	Other TOTAL CHARGES	vvitnessed b Competition	ws Star	buck Se	fect
	Sales Tax			(Please Print)	
Original - Plac	TOTAL CHARGES				

# LIQUID GOLD WELL SERVICE, INC.

**Cement Work Order** Phone 406-873-2966

Rev. 4-07

Fax 406-87	73-2997	MAR - 6 20	09	C	Cut Bank, MT 59427
		MONTANA BOAR	OF OIL	Invoice #	2347
. /	111 - L	& GAS CONS. B	ILLINGS	2 10 1	a
Company _/	Hamon			Date	2011- (1)
Address City/State					28/1 Rng. 6W
Lease	Fild Well #4-1			County Field Older	
/			Dea V		
Long String _	Surface Pipe	25 023	P&A X	Camera	
	IFF	15-015-	21824		
Hole Size	Casing 4½"	Plug #1	3450	to _3325	Sacs /Os
	Casing	The state of the s			
Tubing 23				to	The second secon
TD 3463 PE				to	Sacs
ECP	Casing	Plug #5_		to	Sacs
Comments:		Dia 40	Lake ,	24 420 /- 1	- P.11 ld
10) if h	25 66 20001	10 3	mint a.	34 101 4	- 4 H - Cak
cellana	have displace	count wi	1125	He intes	- wash
up av					,
V					
Quantity	Desc	cription			
01	Cement Pump Truck				
40	Pump Truck Mileage				
01	Bulk Cement Truck				
40	Bulk Truck Mileage		Total Total		
10-X	Bulk Cement				
	Cellophane				
	Polymer				
30#	CaCl				
01	Pick Up Charge ( 4)	5			
01	water truck X C	e his			
nl	0 1 1 1	7 (101 . 11	17/		
01	Quel sucharge 6	le (FT, WI,	Of)		
	Cementer				
	JIM/2 13	16 1	-		
/	Agent of Owner or Contractor	the pron	684		
	Agent of Owner of Contractor				

Date

# LIQUID GOLD WELL SERVICE, INC.

Cement Work C Phone 406-873-		R	ECEIA	ED		P.O. Box 757
Fax 406-873-299	97		MAR - 6 200	09		Cut Bank, MT 59427
1	11	MON	ITANA BOARD			c.w.o.# 2657
Company/_	(tarion)	- A 0	AS CONS. BI	LING8_	Date /	19-09
Address					Sec.	_ Twn Rng
City/State		\$111			County	Macro
Lease Food	5	Well #4-1	7,00	1777	Field Wi	Ki Lat
Long String	Surface Pipe	P&AAPI	15 110	0/3-	2102	
Perfs #1	Casing 42 X	6½ Plug #1	119980	2 to	\$ 850	Sacs25_5X
Perfs #2	Casing 4/2"	Y / Plug #2	1120	_ to	10	Sacs <u>25 5X</u>
Tubing	Casing_/	Plug #3	10	to	0	Sacs
TD	Casing	Plug #4		_ to		Sacs
ECP	Casing	Plug #5	. do	_ to		Sacs
Comments:	rated to loca	1.pn . 613	49.1329	lahe	ON WO	du trato
Tip and	Pull cabing	at 1/10 la	delnt get	CIPZUIO	DOM OF	PALCOSING. B.
Try to 1	park pint	tom To	(a-13)	carne	EIII TI	bught to potter
70011	mper son co	two Dulled	145 illa	Crows	1700/	trip coping out
DE NOICE	and failed on	convent to	and of	holes	DILLAD	2000 concat
Con 1100	Section 201	O wash	4000	d pia	James	No of Contract
4001-1 31	AS STATE IV TO	w f www.	in the contraction		10000	
Quantity		Description			Heit	Total
0/	Cement Pump Truck					
40	Pump Truck Mileage					
01	Bulk Cement Truck					
40	Bulk Truck Mileage	3,29 lan				
70	Bulk Cement					
	Cellophane					
41	Polymer					
141#	CaCl	n =1				
01	Dick Un Chargo VIII					
	Pick Up Charge X 4	Inits				
	Pick op Charge 7 4	Inites				
	Fick op Griange	Indes				
0.1						
01	fuel suscha					
01		13%	13-4/			
OI Todd			, B#		_ Date	*

Agent of Owner or Contractor

# LIQUID GOLD WELL SERVICE, INC. RECEIVED

Cement Work Order Phone 406-873-2966

Rev. 5-06

P.O. Box 757

Fax 406-87	73-2997	D	EC 1 2 2007		Cut B	ank, MT 59427
				Inv	oice # 17	43
Company A	Altomony oil +6as, in	& GAS	NA BOARD OF OI CONS. BILLINGS	Date_//		
Address	,					N Rng. 6W
City/State					Endera	
	Well Jody Feild	4-	/	Field		
Long String _	1 /		P&A	Ca	mera	
35.111				1:401	om Phy	com -
Hole Size	Casing 7" X 83/4	Plug #1	896.91'	to O	1	Sacs /80 s
Drill Pipe				to		Sacs
Tubing	Casing			to		Sacs
TD 897 PE		Plug #4_		to		Sacs
ECP	Casing	Plug #5_		to		Sacs
Comments:	More to. Rig D. Purs	501	36/2 poly	nor ah	and. 1	Pungo .
190 5	x 310(all 1/2 + (al).	Drop	Plus Dis	place w	135,1	1365
Shut	in. Wish of. Any do	ur.		THE PROPERTY.		
	1	1				
	7.5 Bbls Betuen	5-	)			
		/				
Quantity	Description			Unit	Disc.	Total
01	Cement Pump Truck					40
50	Pump Truck Mileage					
01	Bulk Cement Truck					
50	Bulk Truck Mileage					
190	Bulk Cement	/ /				
90#	Calophane	-1/-	A TA			
5901	Polymer		4 77			
50	Pick Up Charge	7	1 1/1			
500 #	(00)		1			
	a flore	171	c) 1/			
15%	fire / Sevelege on pump	1 8 Bu	14			
			6			
	Cementer		1			
	d	1	1	1	2	
	mare our Bill	1 101	nn	Date_//	7-07	The state of
	Agent of Owner or Contractor					

Date\_

## LIQUID GOLD WELL SERVICE, INC.

Cement Wo Phone 406-8			,	1 - 2 - 2
	373-2997	RECEIVED	(	P.O. Box 757 Out Bank, MT 59427
	1	DEC 1 0 2007		1952
_	111 10 +	DEC 1 2 2007	Invoice #	1306
Company	Mallon	MONTANA BOARD OF OIL	Date // -18 -	07
Address		& GAS CONS. BILLINGS	Sec. 4 Twn.	281 Rng. (66)
City/State_ Lease Jody	F- 11 W. 11 /1		County ponde	sa
,			Field wild c	at
Long String	XSurface Pipe	P&A	Camera	
		API	25-073-2	1819
Hole Size(	64 Casing 42	3546	Lasines	,
Drill Pipe	Casing	Plug #1 354/6	to <u>2814</u>	Sacs (CO) SX
Tubing	Casing	Plug #2		_ Sacs
TD3545 P	BTD Casing	Plug #3 Plug #4	_ to	
ECP	Casing	Plug #4 Plug #5	_ to	_ Sacs
Comments:		/	to	_ Sacs
Comments:	1 range to location	take on	water, pu	mp, 10bbs
will	57 8 H	OP ICX 3X C	event, c	15 Place
1293	in up and rice	lows the	Dr (e) Ci	00
	113	1	1 1	
		that 19 moles	700 touts	14
-		Altomost 1	Sol Field	2/-/
Quantity	Description	on	Unit Disc	Total
01	Cement Pump Truck			
35	Pump Truck Mileage / 35	miles		
01	Bulk Cement Truck			
35	Bulk Truck Mileage X 35 m	Ales 1		
1003X	Bulk Cement			
25#	Cellophane	Closest 41/2"		
201	Polymor Float shee	14577		
05	4/2 Centralizers	137		
a tt	Pick Up Charge 135 miles			
950#	Nacl (salt)			
950"	Mica	21 31		
	tuel 3 archestac 15% (	PTODT)		
	Cementer			
	1000 Plojufor So	hn, Bill	Date_//-/8 ~	27
	Agent of Owner or Contractor	<del></del>		
	Da IVIIIVI			

## DRILLSTEM TESTS

DST#1:		3,422-33' in Madison (Sun River Dolo- mite). GTS during initial shut-in, (inal flow period. Gas flowed @ rate of 9-5 MCFD, decreasing at end.			
		Preflow: Initial sh Final flo Final shu	w:	15 min. 33 min. 60 min. 95 min.	
PRESSURES:	First Period		3,402' Top	3,429' Bottom	
		IHP IFP FFP SIP	1635.3 107.2 111.5 1061.8	1648.2 723.6 455.4 1075.0	
	Second Period	IFP FFP FSI FHP	151.9 297.6 1063.6 1606.1	440.5 730.7 1075.9 1617.6	
RECOVERY:			id - 950' - 60' 90' of gas cut	of ammonia cut	
<u>DST #2</u> :		mite). G 21-34 MG flow per	TS in 6 min. F.	iun River Dolo- lowed @ rate of face during final rtially unloaded	
		Preflow: Initial sh Final flo Final shu	w:	60 min. 60 min. 132 min. 45 min.	
PRESSURES:	First Period		3,4021 Top	3,4291 Bottom	
		ihp ifp ffp sip	1673.7 75.0 270.1 1061.8	1694.6 101.2 276.2 1078.2	
	Second Period	ifp FFP FSI FHP	318.6 241.1 1061.0 1673.7	343.9 262.4 1074.7 1694.6	
RECOVERY:			uid - 1,010' - 89 and 120' of gas	90' of highly gas out water.	

## CORE DATA

One core was cut in Mississippian Madison (Sun River dolomite) from 3,430-35\*. There was no recovery. Penetration rate for the core was 1 to 5 minutes/ft.

#### DAILY ACTIVITY SUMMARY

#### (Calendar Days)

3/8/82	Moved in and rigged up General Well Service Rig #21. Drilled rat hole.
3/9/82	Spudded at 1:30 a.m. Drilled 12-1/4" surface hole to 180'. Set 8-5/8" surface easing with 175 sx. cement plus 3% CaCl at 113'.
3/10/82	Nippling up. Tested BOP's to 900#. Held for 15 minutes. Rigged up air equipment.
3/11/82	Blew hole dry and drilled with air to 415'. Changed over to mud and

3/12/82 Drilled 747-1,373'. Had tight hole at 778'.

water and drilled to 747'.

- 3/13/82 Drilled 1,373-1,780'. Tripped for new bit at 1,560'.
- 3/14/82 Drilled 1,780-2,003'. Tripped for new bit at 1,928'.
- 3/15/82 Drilled 2,003-104'.
- 3/16/82 Drilled 2,104-360'.
- 3/17/82 Drilled 2,360-782'.
- 3/18/82 Drilled 2,782-968'.
- 3/19/82 Drilled 2,968-3,065'. Tripped for new bit at 3,009'. Tight hole.
- 3/20/82 Drilled 3,065-254'.
- 3/21/82 Drilled 3,254-419'.
- 3/22/82 Drilled to 3,433'. Conditioned mud. Made short trip to pull out for DST #1.
- 3/23/82 Completed DST #1. Tripped in and conditioned hole for Core #1. Cut core and tripped out.
- 3/24/82 Tripped out with Core #1. Tripped in for DST #2.
- 3/25/82 Ran DST #2. Tripped in. Drilled to 3,482' and conditioned hole.
- 3/26/82 Tripped out to run Schlumberger logs.
- 3/27/82 Set 5-1/2" casing at 3,480". Tagged plug with 2-7/8" tubing at 3,455".
- 3/28/82 Rig was released at 10:00 a.m.

## LITHOLOGY

Sample descriptions begin at 170' in Cretaceous Montana Group beds. Drilling time lag was used to adjust lithology. Formation tops were determined from electrical logs. Samples were examined both wet and dry and described wet. For lithology descriptions, see the enclosed lithologic log.

$\prod$	MAX	' S	TEST	ING	618910	TITA			
	DOI 816	(4	CVT BA	ME - MONTANA 3743)	A Ta	16/3			Canada
USTOMER	Occiden	tal Expl	loration &	Product	Con Co. MAY	82 DATE 2	5-03-82	2	9 6
ELL NO.	#1-34 F	ield		K	BELV. 4045 E / 1	F TICKET # FORMATION TYPE OF	863 DS	T. Two	* 15
ELL LOCAT	TION Sec.	34-T29N-	-R6W	G	ELV. 4035 CONS	FORMATION	Madis	n	
NTERVAL 3	3420-343	5	1.0. 3435	ft N	ETYPAY _ STATE OF MO	TYPE OF	TEST Bott	om Hole	8
DUNTY PO	ondera			S	TATE Montana	NO.			
		825			63502 175	226	F. 25 (10)		
ECORDE	ER DATA	Al	LL MEASUREME	NTS ARE IMP	ERIAL	TIME DATA	CCO	NVENTIC	INAL
60	REC.		10981		10982		58 to	09:58	HR.
60	DEPTH		3402		- 3431		58 to		HR.
132	CLOCK		21132		21134	SF fr. 10:			
\$ 45	BLANKED OFF		No		Yes	FS fr. 13:	10 to	13:55	HR.
		PSI		PSI					1
. Init. I		1670.2	1673.7	1692.1	1694.6				HR.
First	Flow	75.9	75.0	102.9	101.2	TIME ON BTM	08:4		HR.
	Flow	273.6	270.1		276.2	TIME OPEN	08:5		HR.
In Shu	t-in	1065.3	1061.8	1081.6	1078.2	TIME PULLED			HR.
Init.		321.3	318.6	351.6	343.9	TIME OUT	17:3	0	HR.
. Final		247.2	241.1	265.8	262.4	HUD DATA			
Fi Shu		1065.3	1061.0	10/3.0	1074.7		C-1		1
Final	HYG.				1694.6 Computed_	MUD TYPE MUD WEIGHT	Gel 9.3		- 1
		F1810	Computed	F1610	Computed_	VISCOSITY	75		
	DV					WATER LOSS	5.4		1
COVE			E0E (* 1- D C	50	5 ft in D.P.				
OTAL FLU			cut with			MUD DROP	2/32		
			ter unloa			nub DRUF	_		
	ft of Gas			urns.		SAMPLER DA	TA		i
	ft of _	001 110				SURFACE PRESSURE			
-						CUBIC FT. GAS			
UID	RE	SISTIVI	TY TE	MP C1.	CONTENT		1050		
D PIT		2.4		52	2900	C. C. Mud	300		- 1
D PIT F	ILTRATE	1.9	5	52	3700	TOTAL C.C. LIGUI			
COVERED	WATER		_	-	_	GRAVITY & 60'f	33.4		1
COVERED	מטא (		-	_	_	GAS/DIL RATIO	90.7		·
COVERED	MUD FILTRATE		_	-	_		220		5
						GENERAL DA			Popular No.
EMARK						SURFACE CHOKE		2-1/4	3
			th strong bl			BTM. CHOKE	. 75		
			Turned to 2			HOLE SIZE	Nil		Int No
					ce-1 1/2 lbs	AMT.OF FILL	Nil		3
		g at 3 lbs	(24.0 MCF)	then decre	asing to	BTM.H.TEMP	77		- 1
2 1/2	Pounds.					PORDSITY I HOLE COND	Good	0	1
	T 00	50 has				CUSHION AMT	Nil		
10500	Tool at 09	.DB hrs.				CUSHION TYPE	Nil		1
lannad	Too! at 10	50 kps ui	ith strong b	ou-turned	to 1/4 inch	BACK PRESS. VAL			3
			Peaked at			TESTER	DeKa	ye	3
					ud and Oil to	WITNESS	Warn		
	ice at 12.2					CONTRACTOR			11 Serv
						RIG #	#21	co/26	

TEST SUCCESSFUL

Closed Tool at 13.10 hrs.

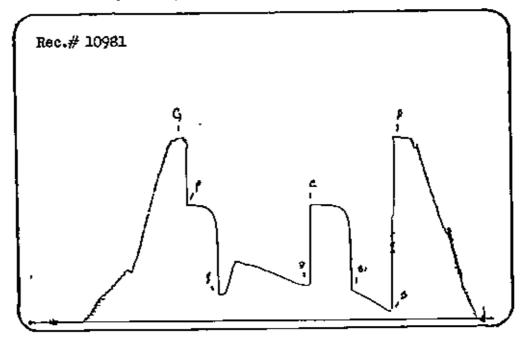
Pulled off bottom at 13.55 hrs.

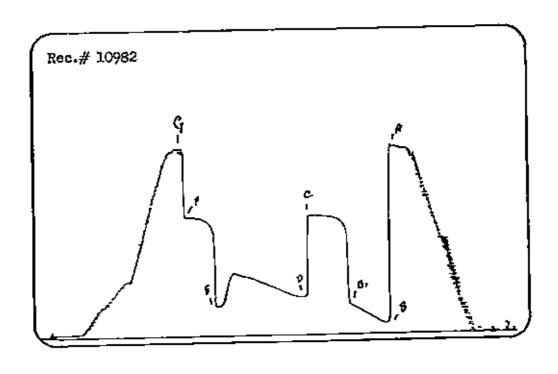
NAME: Field #1-34 DATE: 25-03-82

LOCATION: Sec.34-T29N-R6W TK#: 863 DST#: Two

TIME	CHOKE SIZE in.	SURFACE PRESSURE 16s.		FIGNID	REMARKS
09:04					Gas to surface.
00:00 09:14	1/4	2 1/2	23.0	None	Increasing slightly.
00:00 09:24	1/4	2 1/2	23.0	M '	An abava
00:00	277	2 1/2	23.0	NOTE	As above.
09:34	1/4	3	24.0	None	Peaked.
00:00					
09:44	1/4	2 1/2	23.0	None	Holding steady.
00:00 09:54	1/4	2 1/2	23.0	None	As above
00:00	• • •		20.0		NO GROVE
09:58					Elosed tool
00:00					
10:58 00:00					Seen tool
11:08	1/4	2 1/2	23.0	None	Starting to surge.
00:00					
11:18	1/4	2.0	22.0	None	As above
00:00 11:28	1/4	1	21.0	None	As above
00:00	• • •	•	44.14	1.011.6	H3 8464E
11:38	1/4	5 1/2	27.0	None	Sursing at moderate rate.
00:00	4.4	6.449	20.4	N	
11:48	1/4	6 1/2	29.0	None	As above
11:58	1/4	7 1/2	30.0	None	Sursins between 7 1/2 & 1
00:00					
12:0B	1/4	1	21.0	None	As above
00:00 12:1B	1/4	1/2			
00:00	27 4	172			
12:25					Mud & Oil to surface-took out
00:00 00:00					chakes unloading hole-very highly
00:00					sas cut.
13:10					Closed tool
00:00					
13:55					Pulled off bottom.

Field # 1-34 Sec.34-T29N-R6W T.# 863 DST.# 2





NAME: Field #1-34 DATE: 25-03-82 LOCATION: Sec.34-T29N-R6W TK#: 863 DST#: Two 0.D. I.D. LENGTH DEPTH INCHES INCHES FEET FEET Drill Pire 3.50 2.76 2881.00 Reverse sab 5.75 2.50 1.00 Water Cushion Value Drill Collars 2.50 2.25 505.00 Double Pin 6.00 2.25 .90 Sampler 5.00 .75 81.00 3395.00 Shut-in Tool Hydraulic Valve 5.00 .75 5.00 3400.00 BY Case 5.00 2.69 5.00 3402.00 216 5.00 1.00 5.00 Safety Joint 4.75 2.69 1.75 Equalization Adapter PACKER ASSEMBLY XL 1 6.75 1.50 3420.00 8.56 PACKER ASSEMBLY 2 Equalization Pipe Perforated Anchar 5.00 2.50 10.00 Adapter Blanted off BT Gause PACKER ASSEMBLY 3 PACKER ASSEMBLY 4 Perforated Anchor Side Wall Anchor

5.00

0.00

4.23

3431.00

3435,00

Drill Collars Drill Pipe

T.D.

Blanked Off BT Case

#2

46 4970

K-E SEMI-LOGARITHMIC +2 CYCLES X 10 DIVISIONS
KEUPFEL & ESSEN CO. MARIN 11

WELL NAME & LOCATION :FIELD #1-34 SEC.34-T29N-R6W

EST'D RECOVERY DAMAGE REMOVED-- 264.43 BBL/DAY

10 =	TICKET# RECORDE : 60	863 DŠŤi R #: 10982 £	THO 17 3431	.00 FT.		т =	: 192	:		
TIME	AL SHUT 10+211 217	-IN PSIG	KPA	PSIG^2	*	FIN	IAL SHUT ZXT TZX	_IN _T PS1	is KP	PSIG^2 10^B
0 6284 0	11.003 0035 0073 15.0073 10.00	276.2 943.2 1016.3 1043.0 1058.3 1067.0 1070.4 1074.5 1076.3	1904 8503 7007 7191 7286 7356 7360 7409 7422 7427 7433	.076 .890 1.033 1.088 1.120 1.138 1.146 1.155 1.161	***	0621840625 1233445	33.00 17.00 17.67 9.00 7.40 6.33 5.57	262 938 1016 1042 1058 1058 1072 1073	4 180 645 700 1 718 3 729 2 735 1 739 9 740	9 .069 .880 7 1.033 5 1.086 6 1.120 1 1.137 1 1.149 4 1.153
					DAT	A				
	את מב	, INCREMENTO			LMI 1 T	AL :	H0114		FINAL SH	UT-1N
	NO OF SLOPE D EXTRAPO	, INCREMENTS— POINTS EXTRA F EXTRAPOLAT LATED PRESSI	POLATED ED LINE JRE		1092.	48 00	PSI		1096.0	3 1 0 PSI
F	RESERVOI	R PROPERTIES	3							
	INTERVA RESEVOI TOTAL F FINALFL GROUND RECORDE POROSIT D.C. RE D.P. RE	L	ξΕ 		262. 40 34 5	15 77 90 31 05 65	FEET FIN. PSI FT. FT. CFT. OF	GAS CUT GAS CUT	OIL BIL	
CA	ALCULAT I	ON RESULTS								
DAMAG	GE RATIO	≠ 5,	. 45	*#	IM	PER	IAL			
011	RECOVE TRANSMI AVERAGE INSITU RADIUS POTENTI PRODUCT TEST PR	RY SSIBILITY PERMABILITY CAPACITY OF INVESTIGA OMETRIC SURA IVITY INDEX- ODUCTION OIA	Y		165. 111. 165. 46. 1926.	42   03   45   02   66   652	1D-FT/CF 1D 1D-FT -T- 3BL/DAY- 3BL/DAY	-PSI		

COMPUTATIONS BY RHYASON CONSULTANTS PH: 265-6788

## PHONES: .873-4211 Cur Bank - 873-2528 Havro 265-4402 Mobile 873-4702

BEFORE WORK IS COMMENCED THIS ORDER MUST BE SIGNED

1 M

# MONTANA ÖİL WELL CEMENTERS, INC. RADIO DISPATCHED UNITS

P.O. Box 226, Cut Bank, Montane 59427 (406) 873-4211 & Havre: (406) 265-4402

## **ACIDIZING WORK ORDER & INVOICE**

Bemil to P.O. Box 226, Cut Bank, Montana 59427

12 376

HFE " 282-304-1223
District C.B. Date 4-29.82 P.O. No. Treatment Log. No. 265
District Ortion Onto alarm Tart
Company Oxy Petrology Tick Mail Invoice To 1999 17et 1st Denver Place
( )
Address Denver Coto 80202  Lease & Well No. Field 1-34 Job Started 800 DRM Job Completed 1000 DRM
Lease & Well No. Field 1-34 Job Started Completed 25 Johnston Comp
County Portlers State AsT Field W & Section 34 Township 29 Range 6 W
Type of Well: Workover   Exploratory   Development  Other: (write in)
Treatment No Zone _M_ticl. So.d Rotary & Cable Tool Air
Color Dana Cina (Color Dono)
Casing: New X Used Size 5/2 Weight 17 Depth 3480 Type
Perforations: From 3424 - 3428
Treated Perls.: From 3428 to 327
Tubing or Drill Pipe: Size 278 Weight 6.5 Total Depth 3317
Packer Briker Full Bore Retriable Packers Setal 3377
Previous Treatment None
Reg. Acid—Gais. 1000 411 15 50 He L
Truck 17 4 Mileage HO Transport Magage May 750 782 79
Treater 7. F. V. Driver(s) F. R. C.
Additives In h. b. to e 100°
NON- ENINESION
I Ron Sequestering
TERMS: Cosh at time of sale—Net 30 days to approved credit accounts. After 30 days accounts will be charged 1%% per month service charge on unpaid balance. If necessary to resert to logal action to collect any account such account will be charged with all collection
CONDITIONS, WARRANTY AND RESPONSIBILITY: It is expressly understood and agreed that the above described and agreed the agreement of the agreement agreement and agreement agreemen
ble avriacely understood that Montana Oil You Companies and accessory
antipment of part thereof, whether resuming from the negligeness of more
ployees. The entire warranty or guarantee and responsibility, either expressed or implied, by Montana Oil Well Cementers, Inc. is expressed above The entire warranty or guarantee and responsibility or employed directly or Indirectly by Montana Oil Well Cementers, Inc. has authority to and no agent, dealer or representative, connected the expression or guarantees and responsibilities expressed herein.
and no agent, dealer or representative, connected with or employee parameters and responsibilities expressed herein.
I have read, understand and accept the total contractor, that the above material has been used; that the basis for charges are correctly
to sign this order as agent of the ownst or contractor.  stated; and that I am authorized to sign this memorandum as agent of owner or contractor.

Oxy Parculau

Owner or Contractor

7.0					
Phones: 6873-4211	MONTANA	A OIL WEL	L CEMENTE	RS, INC. NO	30000
873-2628			Bank, Montana 59427	142	<b>:</b>
265-4402 Mobile: 873-4702			R & INVOICE		
/ / /	BEFORE WORK I	S COMMENCE	D THIS ORDER N	MUST BE SIGNED	
Dinter Cut BAL	15 Date	.3127182°	der No	Req. No	
COMPONIA PE	tedfum				··········
Contractor O-ELIEBA	al WEIJ SER	sie€ Riq*	<u> </u>		
Lease and Well No. FiE.	1년 1-3년		Job	Stated DO (F) x	so comel: 40 PM
	ERA, MOUY.	Field	w <u>c</u>	Section 34 Two	Hangs
Mell Invoice To OX Y	Peyro,				,,,, <del></del>
Address 183 VIEW	1 / 3 SE . 24	09 Caspe	e kyo		
Type of Well:	Workeyer, 🗆	Explor	ratory, 🗆	Davelopment, A	Other 🗆
Type of Job: Sur.,	Inter,	Prod.	Squeeze 🖂	Pumping 🗀	P&AC
₽, 0, □	Other (Write In)				(4++++++++++++++++++++++++++++++++++++
\.	Uæd □	She 5/2"	Weight 17.15	, Oepth 3487	Туре
Hole Data: Bors Size:	ייסור ד	Depth 34/85	Rotary di	Cable Tool	
Tubing Or Drill Pipa: Size	•				,
Cementing Packer: Size				Depth Set .	
Type Floot Equipment:	المرا أمسم برمارا	DIR! FIL	1 CollAR, 11		7 CEUT
Type more equipment.			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<b>-1</b> ′	friin in last in the state of t
		No. Sacks		231415	10 1/10 No Sacks
P & A Data: Plug No. 1 From	7-		Plug No. 5 → Fron		
,			Plug No. 6 - Fron	A'N 60	n 1982 📆
Plug No. 3 — From			Plug No. 7 — Fron	ion to	
Plug No. 3 — From			Plug No. 8 — Fron	Con City William	LOS MONTAL
_				C. C.	michen S
Others		Wt. Per Gel	Sarks	Type	MEDRICO DE
Coment Date: Bulk 40	SOCKED L. MINEU				
	out hile CEM	ENT 72	SX CLASS C	2' 145 PR3	<u> </u>
Admix 130sx M	out Lite CEM	ent 72	<u>osx Class (</u>		teed
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Pressure: Circulating Displacement Detar Displacement District	Apple Sold	Phone (405) 873-421 WORK ORDE O. Box 226, Cut	D SX CIASS  Prug  Meximum 700  Berrielle  10 BBIS H3  0 SX 1-70F  ER. Burnelle  11 or (405) 873-2628  R & INVOICE  Bank, Montana 594  Job Starled	Phys beck at 2 Ah End of 2 Ah	30.5x 800.85 14757678
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1.00					13/16/17
Phones: 873-4211	MONTANA	OIL WEL	L CEMENT	ERS, INC.	41.40
873-2628 265-4402	F		ank, Montans 59427	Æ N° AI	11 1982
Mobile: 873-4702			R & INVOICE	on Fig.	SEINER SO
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District	Date:	<i>31918</i> Qoo	er No	Rod No	SEEDY AND
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Type of Job: Sur.,	Inter. 🗆	Prad, 🗖	Squeeze 🖂	Pumping 🖸	P & A 🗆
P. B. 🗆	Other (Write in)		21	IL 1751	Na.
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Comonting Packer: Size	7)	γ <u>ρе</u>	~ 7 - ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	Depth Sat	
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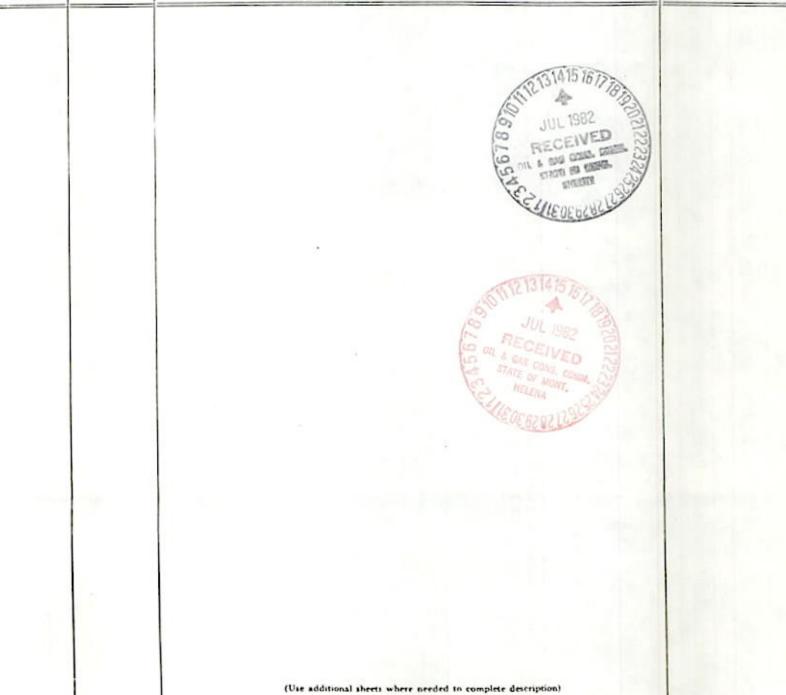
The post of the

## CHECK SHEET

Date	February 18, 1982		of the second second
Company	Oxy Petroleum Inc. Box 40	Mills, Wyoming	82644
well Name	Field		No. 1-34
County	Pondera	Field Wildcat	
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sec. 34 Twp. 29N Rge. 6W
	Permit No.	N-9655	
	Receipt No		NAME OF THE PERSON OF THE PERS
	Drilling Fee	75. 00	
	Intention to Drill	2-18-82	
	API No.	<u>M3-21609</u>	
	Permit Expiration Date	2 18 82	19-85
	Permit Extended 90 days From		То
	\$ 5,000 one well bond	-	
	\$10,000 blanket bond	x	
	\$20,000 blanket bond		
	Government well		
	Sundry Notices	Charl aperat	Lev 7-7.87
		Satisfe a weeker	on 1-2489
	" "		
			, ,
	Log of Well	3-8-82/3-2	8-82 3485 23
	Subsequent Report of Abandonmer	6-1-90	1 1 201-
	Electric Log		The Market Ball
	Radioactive Log		

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npany_O	XY PETROLEU	M, INC.		Leas	seC.	FIELD			Well No. 1-34
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	ocated 1,700		At t			(E)			
							or sec.		4049' K.B.
34	; T2	9 N ; R.	6 W	; County_	PONDE	KA		; Elevation	n 4037' G.L. (D.F., R.B. or G.I
nmenced	drilling 3	- 8		, 19_	82; Comp	leted	3 -	28	, 1
The inf	formation given	herewith is	a complete	and correct	record of t	he well.	The sum	mary on this pa	age is for the cond
the well	at the above da	ate.					Blue	0 1	
npleted a	(oil well,	gas well, dry b	iole)		Signed	T	.D. BLAC	KLOCK	
					Title_Di	vision	Operati	ons Superin	tendent
					Date_J	UNE 2	8, 1982		
			IMPO	RTANT ZO					
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10000	to								
	to								
				CASING	G RECOR	D			
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6"	Per Ft.	Conductor		40'		40'	surfa		
5/8"	24 #	K-55	ST&C	175'		75'	surfa	ce 100	
1/2"	17_#	J-55	LT&C	3480'	3	480'	surfa	ce 200	2120'
				TUBING	G RECOR	D			
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tary tool	ls were used for	rom Sur f	ace				to	3485'	
ble tools	were used from	n					to		10
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From	То	Numbe Size and		From	То			unt of al Used	Pressure
430'	3424'	2 1/2" J.	н.Р.Г.	3430'	3424'	10	00 gals	of 15% HCL	
						4	I P&A show	v plugs above)	
				INITIAL P	PRODUCT	ION			
ell is pro	oducing from_	Madison	- Sun R	iver	_(pool) f	ormation	n.		
23		barrels of oil	perDay	y	100	Pumpi	ng		
			P.1.		(pun	aping or f			
ne-		Mcf of gas pe		hour	rs. house, or_	Contract of the Contract of th		% W.C.	
4	,bar	rels of water	Pe1		News, or_ over		,		

#### INITIAL PRODUCTION—(Continued) Initial 10-day average production\_ Pressure (if measured): Tubing\_ \_(bbl./day) (if taken) psi flowing; psi shut-in Casing. psi flowing; psi shut-iu \_° API (corrected to 60° F.) Gravity\_\_\_25 JUL 1982 RECEIVED DIL & GAS CONS. COMM DRILL STEM TESTS D.S.T. Shut-In SIP. Cushion T.P. 890' of gas cut oil 890' of gas cut oil, 120' --<del>0</del>-3422 3433 75 128 731 1076 192 1075 3420 3435 105 262 --B-of gas cut water CORES LOG RUNS Interval Recovered Type From No. To DIL-SFL 3482 128 128 3482' FDC-CNL-GR BHC-GR 3482' 128' FORMATION RECORD (Need not be filled out if Geologist sample description filed with Commission) SAMPLE AND CORE NO. AND DESCRIPTION Top of Formetten From JUL 1982 RECEIVED IL & DIEG COMES, COM



## ELECTRICAL LOG FORMATION TOPS

CRETACEOUS	<u>DEPTH</u>	DATUM
Base Two Medicine Colorado Blackleaf Dakota Sunburst	743' 823' 1,767' 2,530' 3,042'	(+3,302') (+3,222') (+2,278') (+1,515') (+1,003')
JURASSIC		
Morrison Swift Rierdon Sawtooth	3,102' 3,177' 3,307' 3,403'	(+943') (+868!) (+738') (+642')
MISSISSIPPIAN		
Madison (Sun River)	3,423'	(+622')
DRILLER'S TD	3,4851	(+560')
LOGGER'S TD (Schlumberger)	3,482'	(+5631)

(SUBMIT IN QUADRUPLICATE) MAC 36-3.18(10)-S18020 MAC 36-3.18(10)-S18030 MAC 36-3.18(10)-S18140 THIS FORM BECOMES A
PERMIT WHEN STAMPED
APPROVED BY AN AGENT
OF THE BOARD MAC 36-3.18(10)-518170 BOARD OF OIL AND GAS CONSERVATION MAC 36-3.18(10)-S18200 OF THE STATE OF MONTANA MAC 36-3.18(10)-S18310 MAC 36-3.18(10)-S18330 BILLINGS OR SHELBY GAZ CONG. COM MAG/36-3.18(14)-S18380 RECEIVED OIL & GAS CONS. COMISUNDRY NOTICES AND REPORT OF WELLS MELLS STATE OF MONT. XXX Notice of Intention to Drill Subsequent Report of Notice of Intention to Change Plans Subsequent Report of Shooting, Acidizing, Cementing Notice of Intention to Test Water Shut-off Subsequent Report of Altering CasingMOUNT RECEIVED Notice of Intention to Redrill or Repair Well Subsequent Report of Redrilling or Repair Subsequent Report of Abandonment CHECK NO. Notice of Intention to Shoot, Acidire, or Cement Notice of Intention to Pull or Alter Casing Supplementary Well History DRILLING PERMIT NO Report of Fracturing Notice of Intention to Abandon Well EXPIR. DATE (Indicate Above by Check Mark Nature of Report, Notice, or Other Data) February 10 Following is a notice of intention to do work on land owned described as follows: X-X-X-X LEASEField Pondera MONTANA (County) SE NW/SW MPM 29N 6W Well No. 1-34

ft. from line and 1300 ft. from LOCATE WELL SITE ACCURATELY ON PLAT ON BACK OF THIS FORM.

The elevation of the ground on B. above the sea level is

CORESPANDED THE COMMESCIONARE TUCKS BOARTS TO THE COMMISSION OF TH OR RUN IS REQUIRED IN ACCORDANCE WITH DETAILS OF WORK ACCORDANCE WITH MAC 36-3.18(10)-S18300 RESULT RULE NO. 230.

This well will be a test of the Madison zone for oil. Estimated total depth is 3600'. Surface pipe will be set at 500' with 250sx. Pipe will be 9 5/8"/40 sx. Production pipe will be 5 1/2"/17# set at total depth with 250 sx. Production zones will be treated with acid. Estimated tops include Dakota 2492'; Morrison 3077'; Swift 3127'; and Madison 3405'.

Approved for Gas only

Approved	subject	to	conditions	on	reverse	of	form
----------	---------	----	------------	----	---------	----	------

FEB 1 8 1982

By Hatcher Petro-Land Inc

Company Oxy Petroleum Inc

Box 40, Mills, Wyoming 82644

(Range)

N-965

82

(Meridian)

34

AddressAgent

(Township)

District Office Agent

BOARD USE ONLY API WELL NUMBER

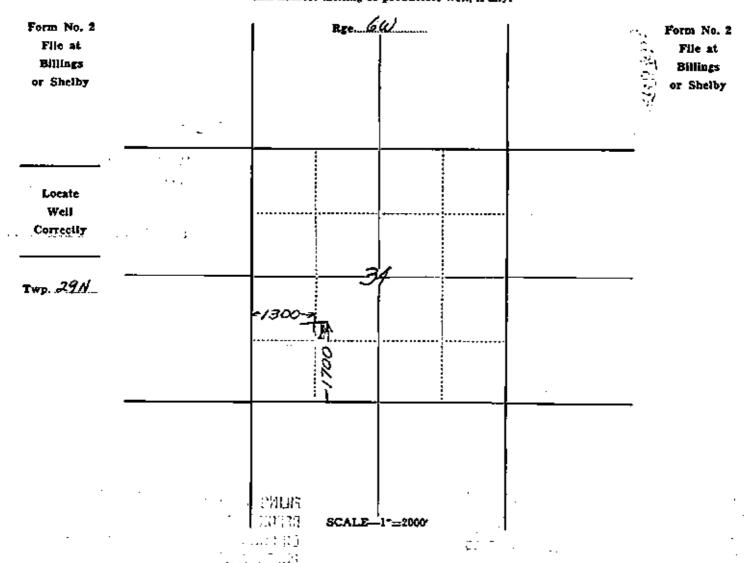
0 73

NOTE:-Reports on this form to be submitted to the appropriate District for approval

WHEN USED AS PERMIT TO DRILL, PERMIT EXPIRES 90 DAYS FROM DATE OF APPROVAL IF WELL NOT SPUDDED OR EXTENSION REQUESTED.

#### Locate well by footage measurement from legal subdivision (Section) line and nearest drilling or producible well, if any,





THE NOTICE OF INTENTION TO DRILL THIS WELL IS APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:

- 1. Any person, before commencing the drilling of any oil or gus well or water source or injection well shall secure from the Board a drilling partnit and shall pay to the Board the following amounts: for each well whose estimated depth is thirty-live hundred (3,500) feet or less, thenty-five dollars (425,00): from thirty-five hundred and one (3,501) feet to seven thousand (7,000) feet, seventy-five dollars (475,00): seven thousand and one (7,001) feet and deeper, one hundred (110) dollars (415,00).
- 2. No well is to be spudded in unless the proper surety drilling bond has been posted and approved by the Board of Oil and Gas Conserva-
  - 3. Cable tool operators must construct an adequate sump to contain all mud and water bailed from the hole,
- 4. Surface of conductor casing must be properly remented by an approved method and pressure tested to determine a light bond with the surrounding formations in case an unexpected flow of oil, gas or water should be encountered, unless special permission has been granted for formation shut-off,
- 5. Any production casing must be estimated unless a formation shut-off or packer is approved by the Board. Sufficient cement must be used to protect the casing and all possible productive and fresh water bearing formations exposed in the process of drilling and not otherwise protected.
- 6. All production easing must be tested by bailing or pressure to determine if there is a Usht band with the surrounding formations or possible leaks in the casing. The results of the test must be reported on Form No. 2, said report to include the size, weight, thread and length resumed, amount of cement used, and date work is done. If test shows figure, the defect must be corrected before any drilling operations are
- 7. Any contemplated change in status of a well such as to plug and alsanden, deepen, plug tack, redrill, after casing, etc. must be preseated on Porm No. I for approval by the Board prior to commencement of work.
- 5. A satisfactory drilling record must be kept for each tour, showing top and thickness of each and all formations drilled and all other information of value, one copy of which is to be kept at the rig while drilling is in progress for examination by any authorized agent of the Board.
- \*. All producing wells must be marked with maste of the operator, number of the well and location, using reasonable precautions to preserve these markings at all times.
- 10. Delivery to the Board of two copies of all surveys, reports, analyses, jogs, tests, samples and core descriptions, etc., as described in Rule 220 and one copy of all cementing records as furnished by the cementing company and described in Rule 234.
- 11. All work must be done in conformity with the regulations of the Board of Oil and Gas Conservation of the State of Montana, as contained in "General Rules and Regulations," and amendments thereto, as well as regulations prescribed in licu thereof.

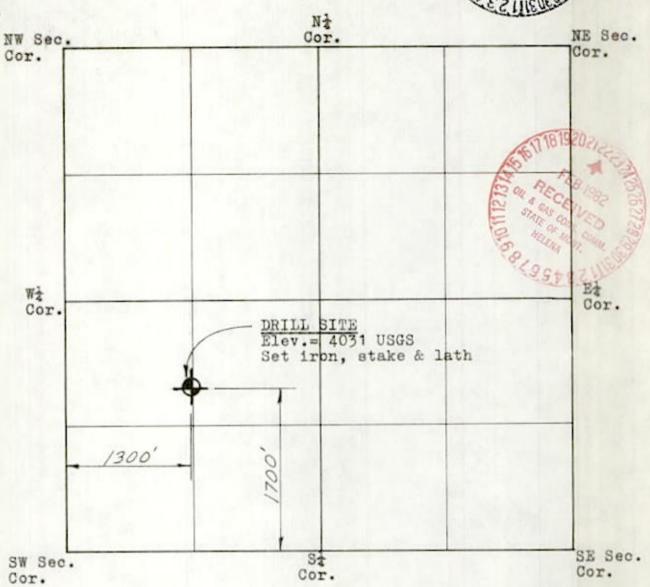
## DRILLING SITE SURVEY

SECTION 34

T29N, R6W, P.M.M.,

PONDERA COUNTY, MONTANA





SURVEY FOR: Oxy Petroleum Company c/o Mr. Dennis Lopez 410 17th Street, Suite 850 Denver, Colorado 80202

PURPOSE OF SURVEY: To locate a drill site in the NW2 of the SW2, Sec. 34, T29N, R6W, PMM, Pondera County, Montana.

WELL NO .- Field 1-34

#### SURVEYORS CERTIFICATE

I, Robert E. Findorff of Choteau, Montana do hereby certify that this is a correct and true survey as hereon delineated and is located in the NW2 of the SW2, Sec. 34 T29N, R6W, PMM, Pondera County, Montana.

19 1992

Robert E. Pindorff Registration No. 39#6ES

Box 490

Choteau, Montana 59422

## HATCHER PETRO-LAND, INC.

"Let Marv Handle Your Permit Requirements" P.O. Box 38 • Mills, Wyoming 82644

> Marvin L. Hatcher, Boss Bus. Phone 307 - 237-8201 Home Phone 307 - 234-6718

Oxy Petroleum Inc. #1-34 SE NE SW 34-29N-6W, Ponders County, Montans

Estimated Geological Tops

Cretaceous	
Colorado Shale	818'
Blackleaf	1808'
Bow Island	2238'
Dakota	2492
Kootenai	2542'
Sunburst	30321
Jurassic	
Morrison	3077'
Swift	3127'
Rierdon	3290'
Sawtooth	3393
Mississippian	
Madison	3405
Proposed Total Depth	3600'





#### (SUBMIT IN QUADRUPLICATE)

NOTICE THIS FORM BECOMES A PERMIT WHEN STAMPED APPROVED BY AN AGENT OF THE BOARD.

STATE OF MONT.

BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA BOARD OF DR. & GAS CORS.

BILLINGS OR SHELBY

SHILLY SUNDRY NOTICES AND REPORT OF WELLS

ARM 36-22,307 ARM 36,22,601 ARM 16.22.602

ARM 36,22,1004

ARM 36.22.603 ARM 36:22:604 ARM 16.22,605

ARM 36.22.1013 ARM 36-22-1301 ARM 36-22-1306 ARM 36-22-1309

ARM 36.22.1003

#### Notice of Intention to Drill Subsequent Report of Water Shut-off Notice of Intention to Change Plans Subsequent Report of Shooting, Acidizing, Cementing Subsequent Report of Altering Casing Notice of Intention to Test Water Shut-off Notice of Intention to Redrill or Repair Well Subsequent Report of Redrilling or Repair Notice of Intention to Shoot, Acidize, or Cement Subsequent Report of Abandonment Notice of Intention to Pull or Alter Casing Supplementary Well History Report of Fracturing Notice of Intention to Abandon Well

(Indicate Above by Check Mark Nature of Report, Notice, or Other Data) . 1989 Following is a notice of intention to do work on land owned described as follows: MONTANA POWARRA
(State) SENUSCO (County) EAST CROCKER SPRINGS Well No. 1-34 FIELD The well is located 1700 ft. from the line and 1300 ft. from the line of Sec. 34 For notice of intention to drill, write the API or the well name of another well on this lease if one exists, LOCATE WELL SITE ACCURATELY ON PLAT ON BACK OF THIS FORM. The elevation of the ground or K.B. above the sea level is \_\_\_

READ CAREFULLY

#### DETAILS OF PLAN OF WORK

READ CAREFULLY

(State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings, cementing points, and all other important proposed work, particularly all details of Shooting, Acidizing, Fracturing.)

## DETAILS OF WORK

WELL WAS DLUGGED WITH ZOSX PLACED GAT BOTTOM OF CASING AND 10SX AT SURFACE. WELL SERVICING BY JRBACON AND REMENT PROVIDED AND PUMPRA BY HALLIBURTOR

LOCATION INSPECTED & APPROVED 5-31-90 G.L

Approved subject to conditions on reverse of form

JUN 0 1 1990 Date

District Office Agent

Company ARCHEAN MINING FOR WESTERN RESERVES By GLEN M. LANDRY

Title DRESIDENT OF ARCHEAU

Address P.O. Box 3502, BILLINGS, MT

BOARD USE ONLY



NOTE:-Reports on this form to be submitted to the appropriate District for approval DRILLING PERMIT EXPIRES SIX MONTHS FROM DATE OF APPROVAL.

# Locate well by footage measurement from legal subdivision (Section) line and nearest drilling or producible well, if any.

Form No. 2 File at Rillings or Shelby		Rge. Co	<i>w</i>			Form No. 2 File at Billings or Shelby
Locate Well Correctly	·					_
Twp.29a)	٥		,	·	.:	•
		1	-1-=2000°		1 1 1	-

#### THE NOTICE OF INTENTION TO DRILL THIS WELL IS APPROVED SUBJECT TO THE FOLLOWING CONDITIONS!

- 1. Any person, before commencing the drilling of any oil or gas well or water source or injection well shall secure from the Board a drilling permit and shall pay to the Board the following amounts: for each well whose estimated depth is thirty-five hundred (3,500) feet or less, twenty-five dollars (\$25.00); from thirty-five hundred and one (3,501) feet to seven thousand (7,000) feet, seventy-five dollars (\$75.00); seven thousand and one (7,001) feet and deeper, one hundred fifty dollars (\$150.00).
- No well is to be spudded in unless the proper surety drilling bond has been posted and approved by the Board of Oil and Gas Conservation of the State of Montana. Date of spudding must be reported to the Board verbally or in writing within 72 hours of commencing drilling.
  - 3. Cable tool operators must construct an adequate sump to contain all mud and water bailed from the hole,
- 4. Surface or conductor casing must be properly cemented by an approved method and pressure tested to determine a tight bond with the surrounding formations in case an unexpected flow of oil, gas or water should be encountered, unless special permission has been granted for formation shut-off.
- 5. Any production casing must be comented unless a formation shut-off or packer is approved by the Board. Sufficient coment must be used to protect the easing and all possible productive and fresh water bearing formations exposed in the process of drilling and not otherwise protected.
- 6. All production casing must be tested by bailing or pressure to determine if there is a tight bond with the surrounding formations or possible teaks in the casing. The results of the test must be reported on Form No. 2, said report to include the size, weight, thread and length of easing, amount of cement used, and date work is done. If test shows failure, the defect must be corrected before any drilling operations are returned.
- 7. Any contemplated change in status of a well such as to plug and abandon, deepen, plug back, redrill, alter easing, etc. must be presented on Form No. 2 for approval by the Board prior to commencement of work.
- 8. A satisfactory drilling record must be kept for each tour, showing top and thickness of each and all formations drilled and all other information of value, one copy of which is to be kept at the rig while drilling is in progress for examination by any authorized agent of the Board.
- All producing wells must be marked with name of the operator, number of the well and location, using reasonable precautions to preserve these markings at all times.
- 10. Delivery to the Board of two copies of all surveys, reports, analyses, logs, tests, samples and core descriptions, etc., as described in Rule 36.22.1013 and one copy of all comenting records as furnished by the comenting company and described in Rule 36.22.1241.
- 11. All work must be done in conformity with the regulations of the Board of Oil and Gas Conservation of the State of Montana, as contained in "General Rules and Regulations," and amendments thereto, as well as regulations prescribed in lieu thereof.

NOTICE THIS FORM BECOMES A PERMIT WHEN STAMPED APPROVED BY AN AGENT OF THE BOARD.

#### (SUBMIT IN QUADRUPLICATE)

TO

ARM 36.22.307 ARM 36.22.601 ARM 36.22.1003 ARM 36.22.1004

ARM 36.22.602 ARM 36,22,603 ARM 36-22.604 JAN 1988M 3672 605

ARM 36.22.1013 ARM 36.22.1301 ARM 36.22.1306 ARM 36.22,1309

BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA

BILLINGS OR SHELBY

RECEIVED - DOARD OF OR & GAS CORES SUNDRY NOTICES AND REPORT OF WELLS IN A CASE

otice of Intention to Drill	Subsequent Report of Water Shut off	C
otice of Intention to Change Plans	Subsequent Report of Shooting, Additing, Comenting	ColVA
otice of Intention to Test Water Shut-off	Subsequent Report of Altering Casing Subsequent	400
otice of Intention to Redrill or Repair Well	Subsequent Report of Redrilling or Repair	80 Ms
otice of Intention to Shoot, Acidize, or Cement	Subsequent Report of Abandonment	
otice of Intention to Pull or Alter Casing	Supplementary Well History	8183
otice of Intention to Abandon Well	Report of Fracturing	

JANUARY 9 . 1989 Following is a notice of intention to do work on land described as follows: leased MONTANA SENWEL Well No. /-34 F/ELD (Meridian) The well is located \_ /700 ft. from \ is line and /300 ft. from w line of Sec. 37

For notice of intention to drill, write the API' or the well name of another well on this lease if one exists. LOCATE WELL SITE ACCURATELY ON PLAT ON BACK OF THIS FORM.

The elevation of the ground or K.B. above the sea level is

READ CAREFULLY

#### DETAILS OF PLAN OF WORK

READ CAREFULLY

(State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings, cementing points, and all other important proposed work, particularly all details of Shooting, Acidizing, Emeturing)

DETAILS OF WORK

INTEND ON TABBING BOTTOM @ APPROXIMATELY 3455 AND PLACE A ZO SACK PLUG OF REGULAR CEMENT ACROSS DERFORATIONS AT 3424 TO 3430, WILL PLACE ADDITIONAL 5 SACK PLUG AT SUBJEACE AND CU CASING OFF BELOW PLOW DEPTH

VERBAL APPROVAL : 1/11/89 BY FLOYD PODALL

Approved subject to conditions on reverse of form

Company WESTERN RESERVES

Date

District Office Agent

Field Spewiso, Title

Address

59932

BOARD USE ONLY API WELL NUMBER



NOTE -- Reports on this form to be submitted to the appropriate District for approval DRILLING PERMIT EXPIRES SIX MONTHS FROM DATE OF APPROVAL.

A-101

#### Locate well by footage measurement from legal subdivision (Section) line and nearest drilling or producible well, if any.

Form No. 3 File at Billings or Shelby	Rec	(ο W_	Form No. 2 File at Billings or Shelby
Locate Weli Correctly			•
Twp. 291/	#		
	SCALE_	-1*== <b>2000</b> *	

#### THE NOTICE OF INTENTION TO DRILL THIS WELL IS APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:

- 1. Any person, before commencing the drilling of any oil or gas well or water source or injection well shall secure from the Board a drilling permit and shall pay to the Board the following amounts: for each well whose estimated depth is thirty-five hundred (3,500) feet or less, twenty-five dollars (\$25.00); from thirty-five hundred and one (3,501) feet to seven thousand (7,000) feet; seventy-five dollars (\$75.00); seven thousand and one (7,001) feet and deeper, one hundred fifty dollars (\$150.00).
- No well is to be spudded in unless the proper surety drilling bond has been posted and approved by the Board of Oil and Gas
  Conservation of the State of Montana. Date of spudding must be reported to the Board verbally or in writing within 72 hours of
  commencing drilling.
  - 3. Cable tool operators must construct an adequate sump to contain all mud and water bailed from the hole.
- 4. Surface or conductor easing must be properly cemented by an approved method and pressure tested to determine a tight band with the surrounding formations in case an unexpected flow of oil, gas or water should be encountered, unless special permission has been granted for formation shut-off.
- 5. Any production casing must be exmented unless a formation shut-off or packer is approved by the Board. Sufficient cement must be used to protect the casing and all possible productive and fresh water bearing formations exposed in the process of drilling and not otherwise protected.
- 6. All production casing must be tested by balling or pressure to determine if there is a tight bond with the surrounding formations or possible leaks in the casing. The results of the test must be reported on Form No. 2, said report to include the size, weight, thread and length of casing, amount of cement used, and date work is done. If test shows failure, the defect must be corrected before any drilling operations are resumed.
- 7. Any contemplated change in status of a well such as to plug and abandon, deepen, plug back, redrill, alter casing, etc. must be presented on Form No. 2 for approval by the Board prior to commencement of work,
- B. A satisfactory drilling record must be kept for each tour, showing top and thickness of each and all formations drilled and all other information of value, one copy of which is to be kept at the rig while drilling is in progress for examination by any authorized agent of the Board.
- 9. All producing wells must be marked with name of the operator, number of the well and location, using reasonable precautions to preserve these markings at all times,
- 10. Delivery to the Board of two copies of all surveys, reports, analyses, logs, tests, samples and core descriptions, etc., as described in Rule 36.22.3013 and one copy of all cementing records as furnished by the cementing company and described in Rule 36.22.1241.
- 11. All work must be done in conformity with the regulations of the Board of Oil and Gas Conservation of the State of Montana, as contained in "General Rules and Regulations," and amendments thereto, as well as regulations prescribed in lieu thereof.

(SUBMIT IN QUADRUPLICATE)

TO

NOTICE
THIS FORM BECOMES A
PERMIT WHEN STAMPED
APPROVED BY AN AGENT
OF THE BOARD.

# BOARD OF OIL AND GAS CONSERVATED OF THE STATE OF MONTANA

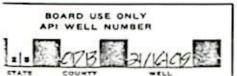


ARM 36.22.1003 ARM 38.22.1004 ARM 36.22.1013 ARM 36.22.1301 ARM 36.22.1306 ARM 36.22.1309

## SUNDRY NOTICES AND REPORT OF WELLS

Notice of Intention to Drill # DE	1	Subsequent Report of Water Shut-off
Notice of Intention to Change Plans		Subsequent Report of Shooting, Acidizing, Cementing
Notice of Intention to Test Water Shut-off	1	Subsequent Report of Altering Casing
Notice of Intention to Redrill or Repair Well		Subsequent Report of Redrilling or Repair
Notice of Intention to Shoot, Acidire, or Cement		Subsequent Report of Abandonment
Notice of Intention to Pull or Alter Casing		Supplementary Well History
Netice of Intention to Abandon Well		Report of Fracturing
change of operator	X	
Understa Above by Check	W W	store of Based Nation of Other Base

May 12, 1987 Following is a notice of intention to do work on land owned described as follows: leased LEASE Fields private LEASE TYPE ... (Private, State, Federal, Indian) East Crocker Springs Pondera MONTANA (Field) (County) Well No. 1-34 Field (Township) (Range) (Meridian) line and 1300 line of Sec. 34 The well is located \_\_1700 N ft. from \_ ft. from For notice of intention to drill, write the API\* or the well name of another well on this lease if one exists. LOCATE WELL SITE ACCURATELY ON PLAT ON BACK OF THIS FORM. ground The elevation of the ground or K.B. above the sea level is READ CAREFULLY DETAILS OF PLAN OF WORK READ CAREFULLY (State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings, cementing points, and all other important proposed work, particularly all details of Shooting, Acidizing, Fracturing.) DETAILS OF WORK RESULT The new operator is Western A change of operator is hereby submitted. Reserves, Inc. Western Reserves hereby accepts this change: CITIES SERVICE OIL AND GAS CORPORATION Company Approved subject to conditions on reverse of form JUL 0 7 1987 RIGHTAL SIGNED BY Dee jückman, Executive Secretary Attorney-In-Fact District Office Agent Title P. O. Box 300, Tulsa, OK 74102 Address



NOTE—Reports on this form to be submitted to the appropriate District for approval.

DRILLING PERMIT EXPIRES SIX MONTHS FROM DATE OF APPROVAL.

READ CAREFULLY

#### DETAILS OF PLAN OF WORK

READ CAREFULLY

(State names of and expected depths to objective sands, show size, weights, and lengths of proposed casings, cementing points, and all other important proposed work, particularly all details of Shouting Acidizing, Fracturing (

#### DETAILS OF WORK RESULT

Although Occidental Petroleum is still the lessee of record, Cities Service Oil & Gas Corporation now operates the above mentioned well.

Posted ontoned yet

Transferred from Oxy Petroleum, Inc. bond to Cities Service Wil and Cas Corp. bond.

Approved subject to conditions on reverse of form	Company Cities Service Oil & Gas Corporation
Date 1. 1.	By Janey a Tale
By District Office Agent Title	Title Engineer 1600 Broadway, Suite 900
District Office Agent Title	Address Denver, Colorado 80202



Perrite Per

OPERATIONAL SUMMARY AND GEOLOGICAL WELL HISTORY



OXY PETROLEUM, INC.

#1-34 CHARLES W. FIELD
SECTION 34, T29N-R6W
PONDERA COUNTY, MONTANA

by S. S. WARNER, GEOLOGIST,
OXY PETROLEUM, INC.

## RESUME

SPUD DATE:

March 9, 1982 @ 1:30 a.m.

RIG RELEASED:

March 28, 1982 @ 10:00 a.m.

STATUS:

Shut in - Waiting on completion.

ELEVATION:

G.L. - 4,033' D.F. - 4,044' K.B. - 4,045'

TOTAL DEPTH:

3,485' (Driller's) 3,482' (Logger's)

CONTRACTOR:

General Well Service, Inc. Rig #21

TYPE RIG:

Cooper LTO Double Drum, 104' derrick, powered by GMC 8V-71N derrick engine

MUD PUMP:

Continental Emsco Type D-375, strock

length - 14"

MUD PROGRAM:

Surface hole, 0-180', gel-lime slurry

Air drilling, 180-415', watered out at

415'

Drilled w/mud, 415'-TD, a nondispersed

ligno-sulfonate mud system

HOLE SIZE:

0-180' - 12-1/4"

180'-TD - 7-7/8"

SIZE DRILL PIPE:

3-1/2", 13.30 lbs./ft., Grade E, IF Thread

SIZE DRILL COLLARS:

5-1/2" OD: 4" ID

NO. DRILL COLLARS:

18 (517.41')

SAMPLE INTERVALS:

30', 15' and 10' samples from 180' to TD

SAMPLE QUALITY:

Fair to excellent

CORES:

(1) 3,430-35' - no recovery

DRILLSTEM TESTS:

#1, 3,422-33', Madison (Sun River)

#2, 3,420-35', Madison (Sun River)

#### MUD AND AIR DRILING SUMMARY

SURFACE HOLE:

Gel-lime slurry

MATERIALS USED:

 Hydrogel
 26 sx

 Lime
 4 sx

 Caustic sodn
 1 sack

BELOW SURFACE:

Air drilling to 415'

415'-TD - Nondispersed ligno-sulfonate

mud system

MATERIALS USED:

Hydrogel 365 sx Driscose (Low) 26 sx Raychrome (CLS) 49 sx 5 sx Causticized lignite Soda ash 4 sx Caustic soda 18 sx Defoamer 5 gals Mica (Fine) 27 sx Ironite sponge 10 sx Ammonium nitrate 13 sx

## MATERIAL DESCRIPTION

HYDROGEL:

High yield Wyoming bentonite (100# bag)

- Used as viscosity builder.

LIME:

Calcium hydroxide (50# bag) - Used as

viscosity builder.

CAUSTIC SODA:

Sodium hydroxide (50# bag) - Used to

control pH.

DRISCOSE:

Sodium carboxylmethyl cellulose (50# bag) - Used to help control water loss.

RAYCHROME (CLS):

Chrome lignosulfonate (50# bag) - Used to help control water loss and as defloc-

culent.

CAUSTICIZED LIGNITE:

Lignite thinner - causticized (50# bag) - Used to help control water loss and as

deflocculent.

SODA ASH:

Sodium carbonate (100# bag).

MICA:

Mica flakes (50# bag) - Used as a hole

lubricant.

IRONITE SPONGE:

Iron oxide H<sub>2</sub>S scavenger (50# bag) -

Used as an H2S scavenger.

AMMONIUM NITRATE:

Ammonium nitrate (50# bag) - Used as a

formation water tracer.

## BIT RECORD

No.	Size	Make	Туре	Feet	Hours	Wt. on Bit	RPM's	Pump Pres.
1 A	12-1/4	STC	DJ	180'	11.00	15,000	120	100
1	7-7/8	Hughes	OSC-3	2351	7.25	20,000	60	500
2	7-7/8	Reed	FP-12	1,1451	30.50	20,000	120	800
3	7-7/8	Recd	4-12	2201	6.25	20,000	120	800
4	7~7/8	STC	DTJ	148'	7.00	15,000	120	800
5	7-7/8	Hughes	J-22	1,081'	100.50	20,000	50/80	1,000
6	7-7/8	Hughes	J-22	424'	52.25	20,000/ 25,000	60/80	1,000
7	7-7/8	Chris	MC-23	5‡	.50	3,000/ 8,000	50/55	210

## LOGGING PROGRAM - SCHLUMBERGER

128-3,4761	Dual Induction - SFL
102-3,480'	Compensated Neutron Density - Gamma Ray
50-3,470'	Bore Hole Compensated Sonic - Gamma Ray

A Schlumberger Cyberlook Computer Processed Log was made over the interval 1,750-3,480'.

## VERTICAL HOLE DEVIATION SURVEYS

<u>DEPTH</u>	DEGREES
560'	0
1,560'	1
1,780'	4-1/4
1,923'	4-1/4
2,811'	4
3,0091	4
3,254'	3-3/4
3,433'	3-3/4

For detailed deviation, see enclosed report by AMF Scientific Drilling (a magnetic directional survey).

#### SAMPLE DISTRIBUTION

Washed, wet samples were enught and shipped to American Stratigraphic Company's sample library in Denver, CO. These are to be cut and shipped to the following:

- MT Oil & Gas Conservation Comm. 2535 St. Johns Avenue Billings, MT 59101
- 2) OXY Petroleum, Inc.
  Attention Mr. S. S. Warner
  One Denver Place, Tower II
  999-18th Street, Suite 1501
  Denver, CO 80202
- Hunt Energy Corporation
   Attention Ms. Linda Ehlers
   2500 First National Bank Bldg.
   Dallas, TX 75202
- 4) Sun Exploration Company
  Attention Mr. Chris Clear
  Trinity Place
  1801 Broadway, Suite 1000
  Denver, CO 80202

## ELECTRICAL LOG FORMATION TOPS

CRETACEOUS	<u>DEPTH</u>	DATUM
Base Two Medicine Colorado Blackleaf Dakota Sunburst	743' 823' 1,767' 2,530' 3,042'	(+3,302') (+3,222') (+2,278') (+1,515') (+1,003')
JURASSIC		
Morrison Swift Rierdon Sawtooth	3,102' 3,177' 3,307' 3,403'	(+943') (+868') (+738') (+642')
MISSISSIPPIAN		
Madison (Sun River)	3,4231	(+622')
DRILLER'S TD	3,485'	(+560')
LOGGER'S TD (Schlumberger)	3,482'	(+563')

## DRILLSTEM TESTS

DST#1:		mite). ( flow peri	in Madison (S GTS during initi iod. Gas flowed lecreasing at end	al shut-in, final d @ rate of 9-5
		Preflow: Initial sh Final flo Final shu	w:	15 min. 33 min. 60 min. 95 min.
PRESSURES:	First Period		3,402' Top	3,429' Bottom
		IHP IFP FFP SIP	1635.3 107.2 111.5 1061.8	1648.2 723.6 455.4 1075.0
	Second Period	IFP FFP FSI FHP	151.9 297.6 1063.6 1606.1	440.5 730.7 1075.9 1617.6
RECOVERY:			id - 950' - 60' 90' of gas cut	of ammonia cut
<u>DST #2</u> :		mite). G 21-34 MG flow per	TS in 6 min. F.	iun River Dolo- lowed @ rate of face during final rtially unloaded
		Preflow: Initial sh Final flo Final shu	w:	60 min. 60 min. 132 min. 45 min.
PRESSURES:	First Period		3,4021 Top	3,4291 Bottom
		ihp ifp ffp sip	1673.7 75.0 270.1 1061.8	1694.6 101.2 276.2 1078.2
	Second Period	ifp FFP FSI FHP	318.6 241.1 1061.0 1673.7	343.9 262.4 1074.7 1694.6
RECOVERY:			uid - 1,010' - 89 and 120' of gas	90' of highly gas out water.

## CORE DATA

One core was cut in Mississippian Madison (Sun River dolomite) from 3,430-35\*. There was no recovery. Penetration rate for the core was 1 to 5 minutes/ft.

#### DAILY ACTIVITY SUMMARY

#### (Calendar Days)

3/8/82	Moved in and rigged up General Well Service Rig #21. Drilled rat hole.
3/9/82	Spudded at 1:30 a.m. Drilled 12-1/4" surface hole to 180'. Set 8-5/8" surface easing with 175 sx. cement plus 3% CaCl at 113'.
3/10/82	Nippling up. Tested BOP's to 900#. Held for 15 minutes. Rigged up air equipment.
3/11/82	Blew hole dry and drilled with air to 415'. Changed over to mud and water and drilled to 747'.
3/12/82	Drilled 747-1,373'. Had tight hole at 778'.
3/13/82	Drilled 1,373-1,780'. Tripped for new bit at 1,560'.
3/14/82	Drilled 1,780-2,003'. Tripped for new bit at 1,928'.
3/15/82	Drilled 2,003-104'.
3/16/82	Drilled 2,104-360'.
3/17/82	Drilled 2,360-782'.
3/18/82	Drilled 2,782-968'.

Drilled 2,968-3,065'. Tripped for new bit at 3,009'. Tight hole.

Drilled 3,065-254'.

3/19/82

3/20/82

- 3/21/82 Drilled 3,254-419'.
- 3/22/82 Drilled to 3,433'. Conditioned mud. Made short trip to pull out for DST #1.
- 3/23/82 Completed DST #1. Tripped in and conditioned hole for Core #1. Cut core and tripped out.
- 3/24/82 Tripped out with Core #1. Tripped in for DST #2.
- 3/25/82 Ran DST #2. Tripped in. Drilled to 3,482' and conditioned hole.
- Tripped out to run Schlumberger logs. 3/26/82
- Set 5-1/2" casing at 3,480'. Tagged plug with 2-7/8" tubing at 3,455'. 3/27/82
- 3/28/82 Rig was released at 10:00 a.m.

### LITHOLOGY

Sample descriptions begin at 170' in Cretaceous Montana Group beds. Drilling time lag was used to adjust lithology. Formation tops were determined from electrical logs. Samples were examined both wet and dry and described wet. For lithology descriptions, see the enclosed lithologic log.

$\prod$	MAX	' S	TEST	ING	618910	TITA			
	DOI 816	(4	CVT BA	ME - MONTANA 3743)	A Ta	16/3			Canada
USTOMER	Occiden	tal Expl	loration &	Product	Con Co. MAY 1	82 DATE 2	5-03-82	2	9 6
ELL NO.	#1-34 F	ield		K	BELV. 4045 E / 1	F TICKET # FORMATION TYPE OF	863 DS	T. Two	* 15
ELL LOCAT	TION Sec.	34-T29N-	-R6W	G	ELV. 4035 CONS	FORMATION	Madis	n	
NTERVAL 3	3420-343	5	1.0. 3435	ft N	ETYPAY _ STATE OF MO	TYPE OF	TEST Bott	om Hole	8
DUNTY PO	ondera			S	TATE Montana	NO.			
		825			63502 175	226	F102500		
ECORDE	ER DATA	Al	LL MEASUREME	NTS ARE IMP	ERIAL	TIME DATA	CCO	NVENTIC	INAL
60	REC.		10981		10982		58 to	09:58	HR.
60	DEPTH		3402		- 3431		58 to		HR.
132	CLOCK		21132		21134	SF fr. 10:			
\$ 45	BLANKED OFF		No		Yes	FS fr. 13:	10 to	13:55	HR.
		PSI		PSI					1
. Init. I		1670.2	1673.7	1692.1	1694.6				HR.
First	Flow	75.9	75.0	102.9	101.2	TIME ON BTM	08:4		HR.
	Flow	273.6	270.1		276.2	TIME OPEN	08:5		HR.
In Shu	t-in	1065.3	1061.8	1081.6	1078.2	TIME PULLED			HR.
Init.		321.3	318.6	351.6	343.9	TIME OUT	17:3	0	HR.
. Final		247.2	241.1	265.8	262.4	HUD DATA			
Fi Shu		1065.3	1061.0	10/3.0	1074.7		C-1		1
Final	HYG.				1694.6 Computed_	MUD TYPE MUD WEIGHT	Gel 9.3		- 1
		F1810	Computed	F1610	Computed_	VISCOSITY	75		
	DV					WATER LOSS	5.4		1
COVE			E0E (* 1- D C	50	5 ft in D.P.				
OTAL FLU			cut with			MUD DROP	2/32		
			ter unloa			nub DRUF	_		
	ft of Gas			urns.		SAMPLER DA	TA		i
	ft of _	001 110				SURFACE PRESSURE			
-						CUBIC FT. GAS			
UID	RE	SISTIVI	TY TE	MP C1.	CONTENT		1050		
D PIT		2.4		52	2900	C. C. Mud	300		- 1
D PIT F	ILTRATE	1.9	5	52	3700	TOTAL C.C. LIGUI			
COVERED	WATER		_	-	_	GRAVITY & 60'f	33.4		1
COVERED	מטא (		-	_	_	GAS/DIL RATIO	90.7		·
COVERED	MUD FILTRATE		_	-	_		200		5
						GENERAL DA			Popular No.
EMARK						SURFACE CHOKE		2-1/4	30
			th strong bl			BTM. CHOKE	. 75		
			Turned to 2			HOLE SIZE	Nil		Int No
					ce-1 1/2 lbs	AMT.OF FILL	Nil		3
		g at 3 lbs	(24.0 MCF)	then decre	asing to	BTM.H.TEMP	77		- 1
2 1/2	Pounds.					PORDSITY I HOLE COND	Good	0	1
	T 00	50 has				CUSHION AMT	Nil		
10500	Tool at 09	.DB hrs.				CUSHION TYPE	Nil		1
lannad	Too! at 10	50 kps ui	ith strong b	ou-turned	to 1/4 inch	BACK PRESS. VAL			3
			Peaked at			TESTER	DeKa	ye	3
					ud and Oil to	WITNESS	Warn		
	ice at 12.2					CONTRACTOR			11 Serv
						RIG #	#21	co/26	

TEST SUCCESSFUL

Closed Tool at 13.10 hrs.

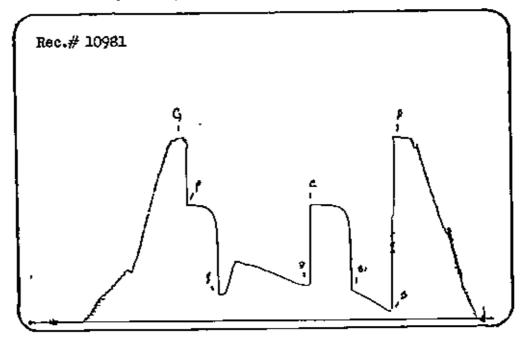
Pulled off bottom at 13.55 hrs.

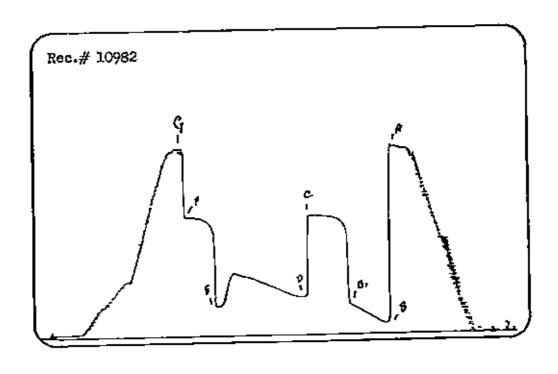
NAME: Field #1-34 DATE: 25-03-82

LOCATION: Sec.34-T29N-R6W TK#: 863 DST#: Two

TIME	CHOKE SIZE in.	SURFACE PRESSURE 16s.		FIGNID	REMARKS
09:04					Gas to surface.
00:00 09:14	1/4	2 1/2	23.0	None	Increasing slightly.
00:00 09:24	1/4	2 1/2	23.0	M '	An abava
00:00	277	2 1/2	23.0	NOTE	As above.
09:34	1/4	3	24.0	None	Peaked.
00:00					
09:44	1/4	2 1/2	23.0	None	Holding steady.
00:00 09:54	1/4	2 1/2	23.0	None	As above
00:00	• • •		20.0		NO GROVE
09:58					Elosed tool
00:00					
10:58 00:00					Seen tool
11:08	1/4	2 1/2	23.0	None	Starting to surge.
00:00					
11:18	1/4	2.0	22.0	None	As above
00:00 11:28	1/4	1	21.0	None	As above
00:00	• • •	•	44.14	1.011.6	H3 8464E
11:38	1/4	5 1/2	27.0	None	Sursing at moderate rate.
00:00	4.4	6.449	20.4	N	
11:48	1/4	6 1/2	29.0	None	As above
11:58	1/4	7 1/2	30.0	None	Sursins between 7 1/2 & 1
00:00					
12:0B	1/4	1	21.0	None	As above
00:00 12:1B	1/4	1/2			
00:00	27 4	1,2			
12:25					Mud & Oil to surface-took out
00:00 00:00					chakes unloading hole-very highly
00:00					sas cut.
13:10					Closed tool
00:00					
13:55					Pulled off bottom.

Field # 1-34 Sec.34-T29N-R6W T.# 863 DST.# 2





NAME: Field #1-34 DATE: 25-03-82 LOCATION: Sec.34-T29N-R6W TK#: 863 DST#: Two 0.D. I.D. LENGTH DEPTH INCHES INCHES FEET FEET Drill Pire 3.50 2.76 2881.00 Reverse sab 5.75 2.50 1.00 Water Cushion Value Drill Collars 2.50 2.25 505.00 Double Pin 6.00 2.25 .90 Sampler 5.00 .75 81.00 3395.00 Shut-in Tool Hydraulic Valve 5.00 .75 5.00 3400.00 BY Case 5.00 2.69 5.00 3402.00 216 5.00 1.00 5.00 Safety Joint 4.75 2.69 1.75 Equalization Adapter PACKER ASSEMBLY XL 1 6.75 1.50 3420.00 8.56 PACKER ASSEMBLY 2 Equalization Pipe Perforated Anchar 5.00 2.50 10.00 Adapter Blanted off BT Gause PACKER ASSEMBLY 3 PACKER ASSEMBLY 4 Perforated Anchor Side Wall Anchor

5.00

0.00

4.23

3431.00

3435,00

Drill Collars Drill Pipe

T.D.

Blanked Off BT Case

#2

46 4970

K-E SEMI-LOGARITHMIC +2 CYCLES X 10 DIVISIONS
KEUPFEL & ESSEN CO. MARIN 11

WELL NAME & LOCATION :FIELD #1-34 SEC.34-T29N-R6W

EST'D RECOVERY DAMAGE REMOVED-- 264.43 BBL/DAY

10 =	TICKET# RECORDE : 60	863 DŠŤi R #: 10982 £	THO 17 3431	.00 FT.		т =	: 192	:		
TIME	AL SHUT 10+211 217	-IN PSIG	KPA	PSIG^2	*	FIN	IAL SHUT ZXT TZX	_IN _T PS1	is KP	PSIG^2 10^B
0 6284 0	11.003 0035 0073 15.0073 0073 0073 0073 0073 0073 0073 0073	276.2 943.2 1016.3 1043.0 1058.3 1067.0 1070.4 1074.5 1077.3	1904 8503 7007 7191 7286 7356 7360 7409 7422 7427 7433	.076 .890 1.033 1.088 1.120 1.138 1.146 1.155 1.161	***	0621840625 1233445	33.00 17.00 17.67 9.00 7.40 6.33 5.57	262 938 1016 1042 1058 1058 1072 1073	4 180 645 700 1 718 3 729 2 735 1 739 9 740	9 .069 .880 7 1.033 5 1.086 6 1.120 1 1.137 1 1.149 4 1.153
					DAT	A				
	את מב	, INCREMENTO			LMI 1 T	AL :	H0114		FINAL SH	UT-1N
	NO OF SLOPE D EXTRAPO	, INCREMENTS— POINTS EXTRA F EXTRAPOLAT LATED PRESSI	POLATED ED LINE JRE		1092.	48 00	PSI		1096.0	3 1 0 PSI
F	RESERVOI	R PROPERTIES	3							
	INTERVA RESEVOI TOTAL F FINALFL GROUND RECORDE POROSIT D.C. RE D.P. RE	L	ξΕ 		262. 40 34 5	15 77 90 31 05 65	FEET FIN. PSI FT. FT. CFT. OF	GAS CUT GAS CUT	OIL BIL	
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COMPUTATIONS BY RHYASON CONSULTANTS PH: 265-6788

### PHONES: .873-4211 Cur Bank 873-2528 Havro 265-4402 Mobile 873-4702

BEFORE WORK IS COMMENCED THIS ORDER MUST BE SIGNED

1 W

# MONTANA ÖİL WELL CEMENTERS, INC. RADIO DISPATCHED UNITS

P.O. Box 226, Cut Bank, Montane 59427 (406) 873-4211 & Havre: (406) 265-4402

# **ACIDIZING WORK ORDER & INVOICE**

Bemil to P.O. Box 226, Cut Bank, Montana 59427

12 376

HFE " 282-304-1223
District C.B. Date 4-29.82 P.O. No. Treatment Log. No. 265
District Ortion Onto alarm Tart
Company Oxy Petrology Tick Mail Invoice To 1999 17et 1st Denver Place
( )
Address Denver Coto 80202  Lease & Well No. Field 1-34 Job Started 800 DRM Job Completed 1000 DRM
Lease & Well No. Field 1-34 Job Started Completed 25 Johnston Comp
County Portlers State AsT Field W & Section 34 Township 29 Range 6 W
Office (welfolin)
Type of Well: Workover   Exploratory   Development  Other: (write in)
Treatment No Zone _M_ticl. So.d Rotary & Cable Tool Air
Color Date Color C
Casing: New X Used Size 5/2 Weight 17 Depth 3480 Type
Perforations: From 3424 - 3428
Treated Perls.: From 3428 to 327
Tubing or Drill Pipe: Size 278 Weight 6.5 Total Depth 3317
Packer Briker Full Bore Retriable Packers Setal 3377
Previous Treatment None
Reg. Acid—Gais. 1000 411 15 50 He L
Truck 17 4 Mileage HO Transport Magage May 750 782 79
Treater 7. F. V. Driver(s) F. R. C.
Additives In h. b. to e 100°
NON- ENINESION
I Ron Sequestering
TERMS: Cosh at time of sale—Net 30 days to approved credit accounts. After 30 days accounts will be charged 1%% per month service charge on unpaid balance. If necessary to resert to logal action to collect any account such account will be charged with all collection
CONDITIONS, WARRANTY AND RESPONSIBILITY: It is expressly understood and agreed that the above described with the specific property of the conditions.
ble avriacely understood that Montana Oil You Companies and accessory
antipment of part thereof, whether resuming from the negligeness of more
ployees. The entire warranty or guarantee and responsibility, either expressed or implied, by Montana Oil Well Cementers, Inc. is expressed above The entire warranty or guarantee and responsibility or employed directly or Indirectly by Montana Oil Well Cementers, Inc. has authority to and no agent, dealer or representative, connected the expression or guarantees and responsibilities expressed herein.
and no agent, dealer or representative, connected with or employee parameters and responsibilities expressed herein.
I have read, understand and accept the total contractor, that the above material has been used; that the basis for charges are correctly
to sign this order as agent of the ownst or contractor.  stated; and that I am authorized to sign this memorandum as agent of owner or contractor.

Oxy Parculau

Owner or Contractor

7.0					
Phones: 6873-4211	MONTANA	A OIL WEL	L CEMENTE	RS, INC. NO	30000
873-2628			Bank, Montana 59427	142	: · ·
265-4402 Mobile: 873-4702			R & INVOICE		
/ / /	BEFORE WORK I	S COMMENCE	D THIS ORDER N	MUST BE SIGNED	
Dinter Cut BAL	15 Date	.3127182°	der No	Req. No	
COMPONIA PE	tedfum				··········
Contractor O-ELIEBA	al WEIJ SER	sie€ Riq*	<u> </u>		
Lease and Well No. FiE	1년 1-3년		Job	Stated DO (F) x	so comel: 40 PM
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Mell Invoice To OX Y	Peyro,				,,,, <del></del>
Address 183 VIEW	1 / 3 SE . 24	09 Caspe	e kyo		
Type of Well:	Workeyer, 🗆	Explor	ratory, 🗆	Davelopment, A	Other 🗆
Type of Job: Sur.,	Inter,	Prod.	Squeeze 🗆	Pumping 🗀	P&AC
₽, 0, □	Other (Write In)				(4++++++++++++++++++++++++++++++++++++
\.	Uæd □	She 5/2"	Weight 17.15	, Oepth 3487	Туре
Hole Data: Bors Size:	ייסור ד	Depth 34/85	Rotary di	Cable Tool	
Tubing Or Drill Pipa: Size	•				,
Cementing Packer: Size				Depth Set .	
Type Floot Equipment:	المرا أمسم برمارا	DIR! FIL	1 CollAR, 11		7 CEUT
Type more equipment.			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<b>-1</b> ′	friin in last in the state of t
		No. Sacks		231415	10 1/10 No Sacks
P & A Data: Plug No. 1 From	7-		Plug No. 5 → Fron		
,			Plug No. 6 - Fron	A'N 60	n 1982 📆
Plug No. 3 — From			Plug No. 7 — Fron	ion to	
Plug No. 3 — From			Plug No. 8 — Fron	Con City William	LOS MONTAL
_				C. C.	michen S
Others		Wr. Per Gel	Sarks	Type	MEDRICO DE
Coment Date: Bulk 40	SOCKED L. MINEU				
	out hile CEM	ENT 72	SX CLASS C	2' 145 PR3	<u> </u>
Admix 130sx M	out Lite CEM	ent 72	<u>osx Class (</u>		teed
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Pressure: Circulating	Mining P. Mining Mining P. Mining Min	Phone (406) 873-421 WORK ORDE  O. Box 226, Cut	Plug  Meximum 700  Berreils  10 BBIS H  0 SX 770F  ER. Bump  11 or (406) 873-2628  R & INVOICE  Bank, Montana 594	Plug book # Property Plug book # Property Plug Book	752 \$ 136 \$x
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Pluge & Heads: Top Plug Pressure: Circulating Displacement Detar Displa Remarks: Low ACE Company Mall Invoice To Address Lease & Well No. County ACE Type of Well: Worko Hole Data: Bore	Remit to P.  Date STATE  Date	Phone (405) 873-421 WORK ORDE O. Box 226, Cut C. P.O. No.  J. Serior Total Depth Total Depth	DSX CIASS  Plug  Meximum 700  Berrielle  10 BB/S / Job Started  A 10 Started  Cition Tow  ment   Tow	Plug back at 2 ANEAC OF ANEAC	30.5x 800.6x 14157008
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nterpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or extness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

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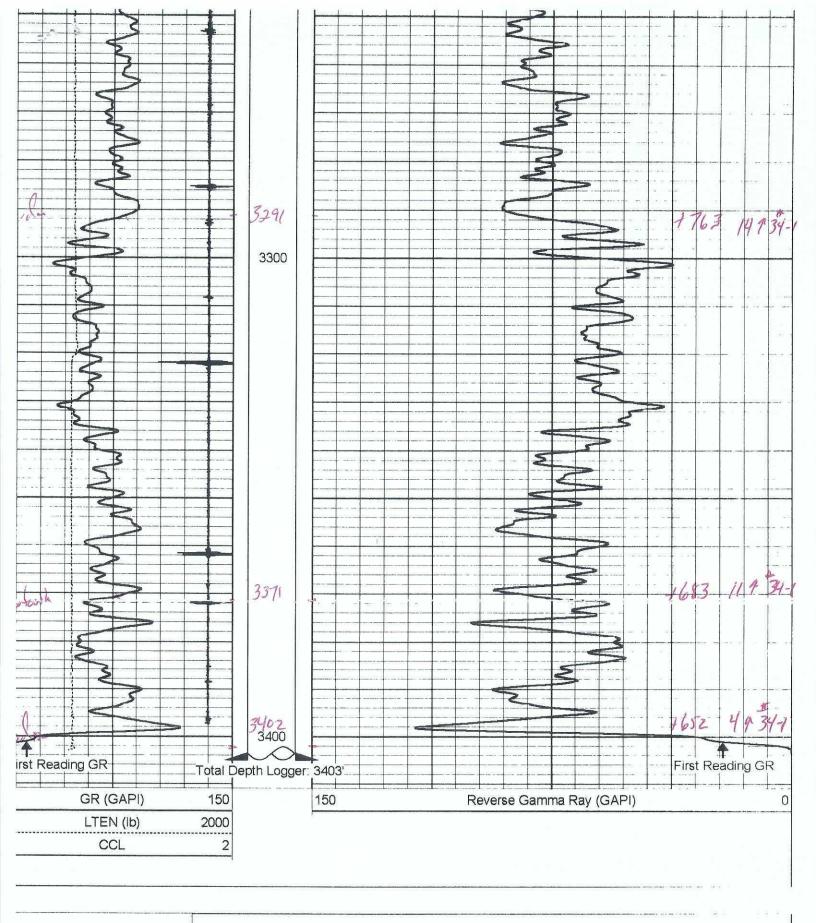
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THANK YOU FOR CHOOSING COMPETITION WIRELINE SERVICES.

YOUR CREW TODAY HAS BEEN: STARBUCK SEIFERT & AARON BROWN

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# Repeat Section

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### OPERATIONAL SUMMARY

and

### GEOLOGICAL WELL HISTORY

Altamont Oil and Gas Inc. Altamont/Jody Field No. 14-34 SESW Section 34-T29N-R6W (990' FSL – 1650'FWL) Glacier County, Montana API No. 25-073-21740

Wildcat

Patrick M. Montalban Petroleum Geologist P.O. Box 488 Cut Bank, Montana 59427

### Resume

Spud Date:

August 27, 2008 August 30, 2008

Completion Date: Status:

Madison Sun River Dolomite "Wildcat

Oil Well Discovery"

Eleavtion:

4049'GR. 4054'KB.

Total Depth:

3415' Driller

Casing:

Ran 4 joints 7",17#/ft,ltd,8rd,ST&C,Rge 3 (164.0") set@161.0KB cemented with 50sx

Class G cement,3%Calcium Chloride

Ran 83 joints 4 1/2",9.5#/ft,8rd,ST&C,Rge 3

(3412') set @3405' KB cemented with

50 sx Class G

Contractor:

Sundance Exploration LLC Rig No.5 Ingersoll- Rand (Tophead Drive)

Type Rig:

Oilwell 214P (6" x 14")

Mud Pump:

Ingersoll- Rand (1250mmcf 350psi)

Air Compressor: Air Program:

Surface to 3415'

Mud Program:

None

Hole Size:

8 3/4" (0-165') 6 ½"(165' – 3415 ') 4 1/2" O.D. x 4" I.D. (16.60 #/ft.)

Size Drill Pipe:

4 <sup>3</sup>/<sub>4</sub>"O.D. x 2 1/8" I.D.(121')

Size Drill Collars: No. Drill Collars:

4 = 121'

Sample Intervals:

None None

Sample Quality:

None

Cores:

None

Drill Stem Tests:

None

Air Drilling Summary
Drilled 3 7/8" hole with air mist from surface to 3415'.

### Sample Distribution

None Required by the Montana Oil and Gas Conservation Commission, 2535 St. Johns Ave., Billings Montana in accordance with Rule No. 229

Logging Summary
No Logs Run.

### Mud Summary None

				Bit Reco	<u>rd</u>			
No.	Size	Make	Type	Interval	Footage	Hours	Jet Size	Serial No.
		HTC	STX-20	0 - 77	77	3.00	open	ER8776
2	3 7/8"	HTC	ER-20	77-3415	3338	18.75	open	none

### Daily Activity Summary (Calendar Days)

August 27,2008

Moved in and Rigged up Sundance Exploration LLC Rig No. 2. Spud 6 ¼" hole at 11:45A.M. Drilled 6 ¼" hole with air mist from 0' to 77' inside 7" surface casing. Drillled 3 7/8" hole with air mist inside the 4 ½" casing. Lower camera inside 7" casing. Trip tubing into the hole and place 2 gallons of 28% Hcl inside 4 ½" casing. Lower camera inside 7" casing and concluded 4 ½" casing to be clean.

August 28,2008

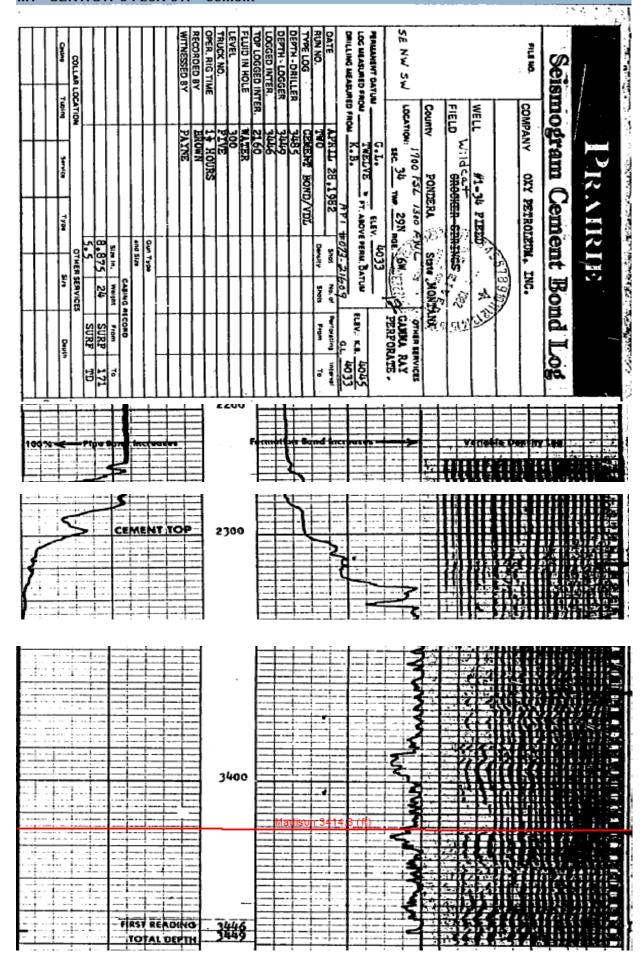
T.D. 77'. Load 4 ½" casing. Unload and strap 4 ½" casing. unload 2 3/8" tubing. Rig up 7" x 4 ½" wellhead. Trip In 4 ½" casing and sting into casing. Pulled 5000#/s on 4 ½" casing and set in slips. Nipple up diverter head. Drilled 3 7/8" hole with air mist from 77' to 2400'.

August 29,2008

Drilled 3 7/8" hole with air mist from 2400' to 3415'. Total Depth 3415' by operator. Repair rig.

August 30,2008

T.D. 3415. Start and warm rig. Blow well down and recovered highly oil cut water. Set tubing in slips. Rigged down. Report Ends.



LOCATE WELL CORRECTLY

34 0

# (SUBMIT IN TRIPLICATE) TO

# BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA BILLINGS OR SHELBY

# ARM 36.22.307 ARM 36.22.1011 ARM 36.22.1013

# COMPLETION REPORT

Company A	ALTAMONT	OIL & GAS,	INC	Leas	eFIEI	LD		We	ell No. 14-34
AddressP	0 вох 48	88 - CUT BA	NK MT	59427	Fi	eld (or	Area) WI	LDCAT	
The well is	located_9	90' ft. fro	斌 n (S) lin	e and 165	0'_ft. fi	XEX rom (W)	line of Sec	34	
Sec. 34	·T 29	)N : R. 6	₩: Co1	untyPO	NDERA			_; Elevation	4049 GL (D.F., R.B. or G.L.)
							*		
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The info	ormation g on of the v	given herewit well at the ab	h is a cor ove date	mplete and e.	correct	record	of the well. I	The summary	on this page is for
Completed	as OII	WELL			Signe	d	Raddel ICK M. MON	PAT DAN	
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4-1/2	9.5#/1	ft API	ST&C	340	5' KB	161'	3405'	50 Sacks	3% CaC1 Class G Cement
				TUBIN	G RECO	RD			
	Size Tubin		ght Ft.	Grade Thread Amount Perforations					
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Cable tools	were use	d from					to		to 3,415'
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# Tops based on Kelly Busing Elevation 4054' KB:

Blackleaf	1764	+2290
Blackleaf Bentonite	1802	+2252
Ist Bow Island	1862	+2192
2 <sup>nd</sup> Bow Island	2011	+2043
3 <sup>rd</sup> Bow Island	2119	+1935
4 <sup>th</sup> Bow Island "A"	2354	+1700
4 <sup>th</sup> Bow Island "B"	2398	+1656
Dakota	2521	+1533
Kootenai	2564	+1490
Sunburst Horizon	3079	+ 975
Morrison	3116	+ 938
Swift	3164	+ 890
Swift Shale	3237	+ 817
Rierdon	3291	+ 763
Sawtooth	3371	+ 683
Madison	3402	+ 652
Total Depth	3415	+ 639

Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

# Attachment B Geological and Geophysical Information

### **CONTENTS**

1.	Geology	2
2.	Underground Sources of Drinking Water (USDWS) and Confining	3
	Zones	2
3.	Water Quality	5
4.	References	6

### **TABLES**

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4

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- Figure 01. Aquifers and Confining Units of the Norther Great Plains Aquifer System
- Figure 02. Northern Great Plains Aquifer System, Madison Formation Thickness
- Figure 03. Geologic Cross Section Location
- Figure 04. Geologic Cross Section
- Figure 05. Sun River Dolomite Porosity Isopach Map
- Figure 06. Northern Great Plains Aquifer System Stratigraphic Column
- Figure 07. Jody Field 34-1 Well Schematic
- Figure 08. Jody field 34-2 Well Schematic
- Figure 09. Thickness of underlying Devonian Confining Layer
- Figure 10. Map of Pondera County
- Figure 11. Seismic Map

### **EXHIBITS**

- Exhibit A. Water Quality Analyses
- Exhibit B. Well Reports, Jody Field Wells 34-1 and 34-2

### 1. GEOLOGY

The Madison Aquifer is part of the Northern Great Plains aquifer system, which extends across Montana, Wyoming, North Dakota, and South Dakota and lies beneath confining units in the proposed Underground Injection Control (UIC) area (**Figure 01**) (USGS, 1996). The Madison Aquifer in this area is comprised of the Mississippian Madison Limestone, which includes the Lodgepole Limestone, overlain by the Mission Canyon Limestone. The formations consist of marine carbonates and evaporites deposited in a shallow water environment (Downey, 1984). The Lodgepole Limestone consists mainly of fossiliferous to micritic dolomite and limestone units. The Mission Canyon Limestone consists of a coarsely crystalline limestone at its base, grading upward to finer crystalline limestone. The thickness of the Madison Limestone in northwestern Montana is mapped at approximately 1,000 to 1,200 feet as illustrated on **Figure 02** (Downey, 1984).

The Class II UIC wells (Jody Field wells 34-1 and 34-2) are completed within the Sun River Dolomite, the uppermost section of the Madison formation. The Sun River Dolomite ranges up to an average of approximately 200 feet thick in this area with the Mission Canyon and Lodgepole extending approximately 1,000 feet in thickness beneath that (Pasternack, 1988). A cross section was prepared based on well data gathered from BOGC records (**Figures 03 and 04**). As indicated in the cross section, the Sun River Dolomite, in close proximity to the proposed Class V UIC wells, is approximately 250 feet thick. The thickest injection interval in the existing Class II UIC wells is 90 feet thick.

The Sun River Dolomite has been studied extensively for its hydrocarbon production potential and has been determined to have an average porosity of 8 to 14% and average permeability of 10 to 82 millidarcy (md) with the highest values observed in the Pondera Field. **Figure 05** indicates the porosity values mapped in the Pondera field and surrounding areas. According to Pasternack (1988), two dominant porosity types are within the Sun River Dolomite: moldic porosity in discreet areas developed from dissolution of bioclastic debris and fracture porosity, which is evident throughout all areas of the Sun River Dolomite. Bioclastic debris is deposited as shallow marine bars oriented northwest-southeast. As indicated on **Figure 05**, the Jody Field wells are located within a bioclastic debris trend that intersects the Pondera and Highview Fields and have a bioclastic debris composition greater than 20%, inferring a high percentage of moldic porosity. The Class II Aquifer Exemptions established for this area by the Montana DOGC are based on a porosity in the range of 14% (Telephone conversation with George Hudak, July 2022) and confirmed in regional well logs.

# 2. UNDERGROUND SOURCES OF DRINKING WATER (USDWS) AND CONFINING ZONES

The Madison Aquifer is bounded by confining layers that separate it from the Lower Paleozoic and Lower Cretaceous aquifers (**Figure 06**).

The Madison Limestone is overlain by the unconforming confining units of the Jurassic Ellis Group, which consists of the Swift, Rierdon and Sawtooth (Piper) formations. The Ellis Group forms a confining layer between the Mississippian and lower Cretaceous aquifers and is present above the Madison Sun River Dolomite as indicated in the UIC wellbore schematics for Jody Field Wells 34-1 and 34-2 (**Figures 07 and 08**).

According to USGS (2022), The Sawtooth formation in Western Montana consists of dark gray, platy to shaly, dense limestone with a local basal conglomerate. The Rierdon Formation includes gray, locally fossiliferous limestone that may contain quartz sand interbedded with greenish gray limy shale. The Swift Formation includes glauconitic, flaggy-bedded, commonly fossiliferous, fine-grained sandstone or sand coquina with dark gray shale interbeds. A dark gray, noncalcareous, micaceous shale forms the lower part of the formation, commonly with a basal chert pebble conglomerate or conglomeratic sandstone. Based on review of local well logs, the total thickness of the confining units within the Ellis group is over 220 feet.

Logs reviewed from oil and gas wells in the region indicate that the Sun River Dolomite ranges up to as much as 300 feet thick beneath the Ellis Group. Review of well logs from two nearby wells drilled deeper into the Madison indicate the presence of a dense, cherty unit with a minimum thickness of 108 feet to 147 feet directly beneath the Sun River Dolomite (API #25-073-05457 and API #25-073-05439). According to the well logs, this unit was documented to have low to no porosity.

The confining units beneath the Mississipian Madison Formation include Silurian and Devonian units consisting mainly of shaly carbonates, shale, and evaporites (**Figure 09**). Because of the fine-grained lithology and the presence of evaporites in the Silurian and Devonian units, these formations are considered to be confining beds between the Mississippian aquifer and the underlying Cambrian-Ordovician aquifer (Downey, 1984). Hydrologic modeling results of Downey (1984, 1986) indicate that vertical hydraulic conductivity between the Cambrian-Ordovician and Madison aquifers is less than 10-6 ft/d throughout the study area.

The Devonian Duperow formation, which is separated from the Madison Aquifer by the Three Forks, Potlatch and Nisku formations, has recently been classified as an underground source of drinking water (USDW) in central Montana due to intervals of total dissolved solids (TDS) concentrations less than 10,000 mg/L and greater than 3,000 mg/L. The thickness of the confining layer (Three Forks formation) in the proposed UIC area between the Madison and underlying Duperow aquifer is approximately 200 feet (Pasternack, 1988). Based on local well logs, the thickness of the Duperow Aquifer east of the UIC permit boundary is greater than 700 feet (**Figure 04**).

The proposed Class V UIC Wells are located in Pondera County, which measures 1,640 square miles and is located approximately 90 miles northwest of Great Falls, the third largest city in Montana with a population of 58,700 (**Figure 10**). The population of Pondera County has declined steadily over the past several decades and in 2022 had declined from 6,044 to 5,764 (Data USA, 2022). Agricultural production employed 45% of the County's labor force in 2017, and agricultural land accounted for 25% of the county's tax base (Montana State University, 2022). The median household income in 2020 was \$30,464 (Wikipedia, 2022).

The local population is served by nine (9) small water systems that draw from shallow groundwater wells and local reservoirs, as well as privately owned shallow water wells. The Madison Aquifer is not currently used as a drinking water supply in the proposed UIC area. Most of the shallow Quaternary aquifers are comprised of unconsolidated alluvial deposits derived from the surrounding mountains (Noble, 1982b). According to Noble (1982b), these aquifers are primarily water-table aquifers and groundwater movement follows the topography in a downstream direction. Recharge to the shallow alluvial aquifers is primarily through rainfall and snowmelt. Deeper Tertiary aquifers in the area range from depths of 100 to 300 feet and include coarse grained interbedded sandstones, channel conglomerates, tuffs and siltstones (Noble, 1982b). Alluvial aquifers are the most used aquifers in the Great Plains region of Montana, due to their high yields and proximity to agricultural land (Noble, 1982a).

Details regarding the USDWs and Confining Units in the Area of Review (AoR) are provided in Table 1 below.

TABLE 1. US	TABLE 1. USDWs in the AoR									
Formation	USDW or Confining Zone	Lithology	Thickness	Depth	TDS Concentrations					
Quaternary and Tertiary Aquifers	USDW	Quaternary unconsolidated aquifers include alluvium, colluvium terrace deposits, eolian deposits, glacial deposits, high level gravels, and deeply weathered surface of some sandstone formations/Tertiary aquifers include coarse grained interbedded sandstones, channel conglomerates, tuffs and siltstones	Quaternary up to 200 ft/Tertiary <1,500 ft	Deeper Tertiary aquifers in the area range from depths of 100 to 300 feet	<3,000 mg/L in Quaternary Deposits and 500 mg/L to >5,000 mg/L in the lower Tertiary Deposits; The Fort Union Section has TDS concentrations ranging from <200 to >9,500 mg/L					
Upper Cretaceous Aquifer -Hell Creek Formation and Montana Group (Fox Hills Sandstone)	USDW	Sandstone	Fox Hills approx. 300 ft, Hell Creek 500 to 1,100 ft	Approx. 300 ft to 1,800 ft	107 to 4,400 mg/L					
Upper and Lower Cretaceous - Colorado Group (Colorado, Greenhorn, Blackleaf, Bow Island Formations)	Confining Zone	Mudstone-shale and Volcaniclastic	Approx. 750 ft	Approx. 1,800 ft	NA					

TABLE 1.	<b>USDWs</b> i	n the AoR
----------	----------------	-----------

200	USDW or				TDS
Formation	Confining Zone	Lithology	Thickness	Depth	Concentrations
Lower Cretaceous Aquifer - Dakota Sandstone, Kootenai Formation (Sunburst)	USDW	Sandstone	Approx. 500-700 ft	Approx. 2500 ft	Ranges depending on location – observed at 7,000 to 12,000 mg/L (Well MT51141- 07750)
Jurassic Ellis Confining Group Zone (Morrison, Swift, Rierdon, Sawtooth)		Dense shale, silty shale and siltstone	>220 ft	Approx. 3200 ft	NA
Mississippian Madison Aquifer	USDW	Sun River Dolomite with good porosity underlain by dense, cherty upper section of Mission Canyon Limestone. Lower Mission Canyon and Lodgepole have intermittent dense, tight sections, interbedded with more transmissive units.	Sun River Dolomite: approx. 250 ft, underlain by a dense cherty unit of the Mission Canyon, approx. 108-147 ft thick	Approx. 3440 ft	5,440 mg/L (API # 25-073-21740)
Devonian Confining Three Forks Formation (Devonian)		Dense, tight limestone and shale (approx. 60 ft underlain by interbedded shale and anhydrite)	Up to 200 ft	Approx. 3800 ft to 4190 ft	NA
Devonian Duperow Aquifer	uperow microcrystalline		>700 ft	Approx. 4,500 ft	9,470 to 13,800 mg/L (API # 25-073-21523)

### 3. WATER QUALITY

The primary minerals within the Madison Limestone include calcite, dolomite, and anhydrite, with dissolution of anhydrite and dolomite largely contributing to the water quality throughout the aquifer (Busby, 1991). The presence of hydrogen sulfide odor in the wells analyzed by the USGS was also noted during sampling and was determined to be due in part to a terrigenous source of sulfur, which has been noted in the proposed UIC area (Telephone conversation with George Hudak, July 2022).

Due to the presence of anhydrites, the TDS concentrations in the Madison Aquifer vary greatly from less than 1,000 mg/L to greater than 300,000 mg/L, depending on the location within the formation and groundwater flow characteristics (Downey, 1984). According to George Hudak, UIC

Coordinator, Montana BOGC, the TDS concentration in the proposed UIC area ranges above 5,000 mg/L.

The Montana Bureau of Mines and Geology mapped TDS concentrations in the immediate surrounding areas. The data were collected from oil tests or production wells between 1920 and 1977 and indicated TDS concentrations in the Sun River Dolomite ranging from around 4,490 to 6,660 mg/L and TDS concentrations in the Madison Formation ranging from around 3,240 to 7,100 mg/L (Feltis, 1980b). A water sample collected from Well 14-34 (API #25-073-21740), which is centrally located within the UIC area, indicated a TDS concentration of 5,440 mg/L (Exhibit A). A water sample collected from Well 4-1 (API#25-073-21824) indicated a calculated TDS concentration of 5,109 mg/L (Exhibit A).

Details regarding water quality in the known USDWs in the AoR are summarized in Table 1. Regional groundwater flow direction through the southern and eastern portion of the Madison Aquifer is northeastward (USGS, 1996). A potentiometric surface map generated by the Montana Bureau of Mines and Geology based on local oil and gas well data indicates a northward groundwater flow direction in the vicinity of the UIC wells (Feltis, 1980a). The proposed UIC area is located on the western edge of the Great Plains, west of the Sweetgrass Arch and east of the Intermountain Seismic Belt. **Figure 11** indicates that the proposed UIC area is located several miles east of mapped faults in an area with low earthquake risk. No mapped or known faults lie within the AoR. Depth to basement from the base of the Sun River Dolomite is estimated to be over 2,000 feet (Figure 04).

### 4. FORMATION DATA

Well records for the Jody Field wells (Exhibit B) indicate that the bottom hole fluid pressure is 1,096 psi with a temperature of 77° F. Fracture pressures are included in the workover reports provided in Exhibit B.

Formation fluid water quality data was collected within the proposed area-wide UIC permit boundary during drilling of Well No. 4-1 in 2007. The formation fluid was reported to have a pH of 7.5, specific gravity of 1.007, a measured conductivity of 8,480 µmhos/cm and a calculated TDS concentration of 5,109 mg/L. The water analysis report for Well 4-1 is included in Exhibit A.

The injection zones are completed within the Sun River Dolomite, the uppermost section of the Mississippian Madison Formation. As discussed in Section 1 (Geology), the Sun River Dolomite within the area-wide UIC permit boundary appears to have a bioclastic debris composition greater than 20%, resulting in a porosity in the range of 14% which is consistent with field observations. The receiving formation is composed predominantly of a vugular dolomite  $(CaMg(CO_3)_2)$  with locally interbedded anhydrites  $(CaSO_4)$ . The dolomite is typically associated with minor quantities of goethite (FeOOH), hematite (Fe<sub>2</sub>O<sub>3</sub>), and quartz (SiO<sub>2</sub>) (Busby,1991).

### 5. REFERENCES

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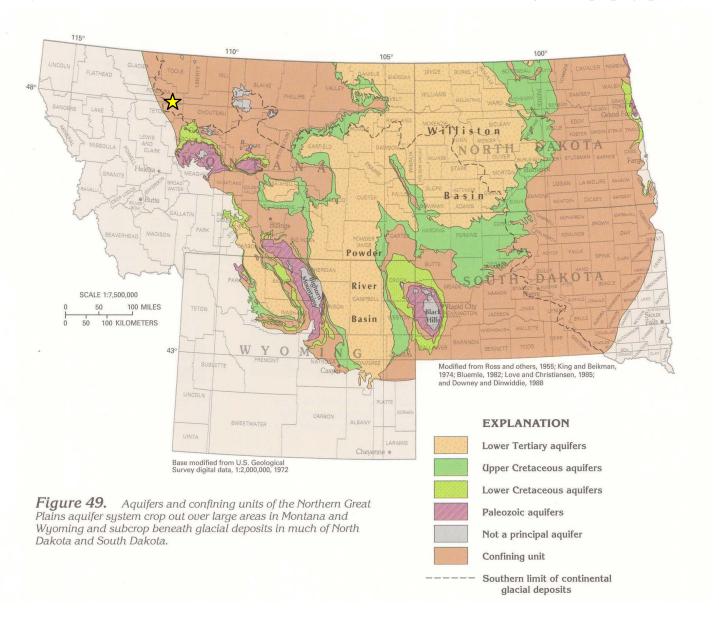
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### **FIGURES**

- Figure 01. Aquifers and Confining Units of the Norther Great Plains Aquifer System
- Figure 02. Northern Great Plains Aquifer System, Madison Formation Thickness
- Figure 03. Geologic Cross Section Location
- Figure 04. Geologic Cross Section
- Figure 05. Sun River Dolomite Porosity Isopach Map
- Figure 06. Northern Great Plains Aquifer System Stratigraphic Column
- Figure 07. Jody Field 34-1 Well Schematic
- Figure 08. Jody field 34-2 Well Schematic
- Figure 09. Thickness of underlying Devonian Confining Layer
- Figure 10. Map of Pondera County
- Figure 11. Seismic Map



Geohydrology of the Madison and Associated Aquifers in Parts 🙀 Approximate Site Location of Montana, North Dakota, South Dakota, and Wyoming

**AQUIFERS AND CONFINING UNITS OF THE NORTHERN GREAT PLAINS AQUIFER SYSTEM** 

> **MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE UIC APPLICATION JODY FIELD WELLS**

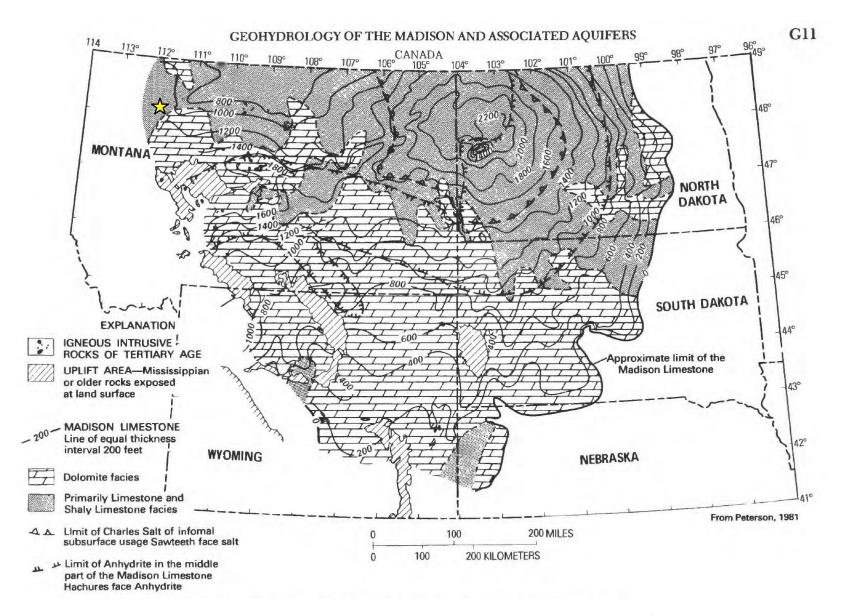
**Attachment B** FIGURE 01

RAMBOLL US CONSULTING, INC. A RAMBOLL COMPANY



By Joe S. Downey

Geology and Hydrology of the Madison Limestone and Associated Rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming



Geography of the Madison and Associated Aquifers in Parts of Approximate Site Location Montana, North Dakota, South Dakota, and Wyoming

**NORTHERN GREAT PLAINS AQUIFER SYSTEM - MADISON FORMATION THICKNESS** 

By Joe S. Downey

Geology and Hydrology of the Madison Limestone and Associated Rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming

**MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE UIC APPLICATION JODY FIELD WELLS** 

### **Attachment B** FIGURE 02





### Well Location

Active Injection

Cross Section

Area-Wide UIC

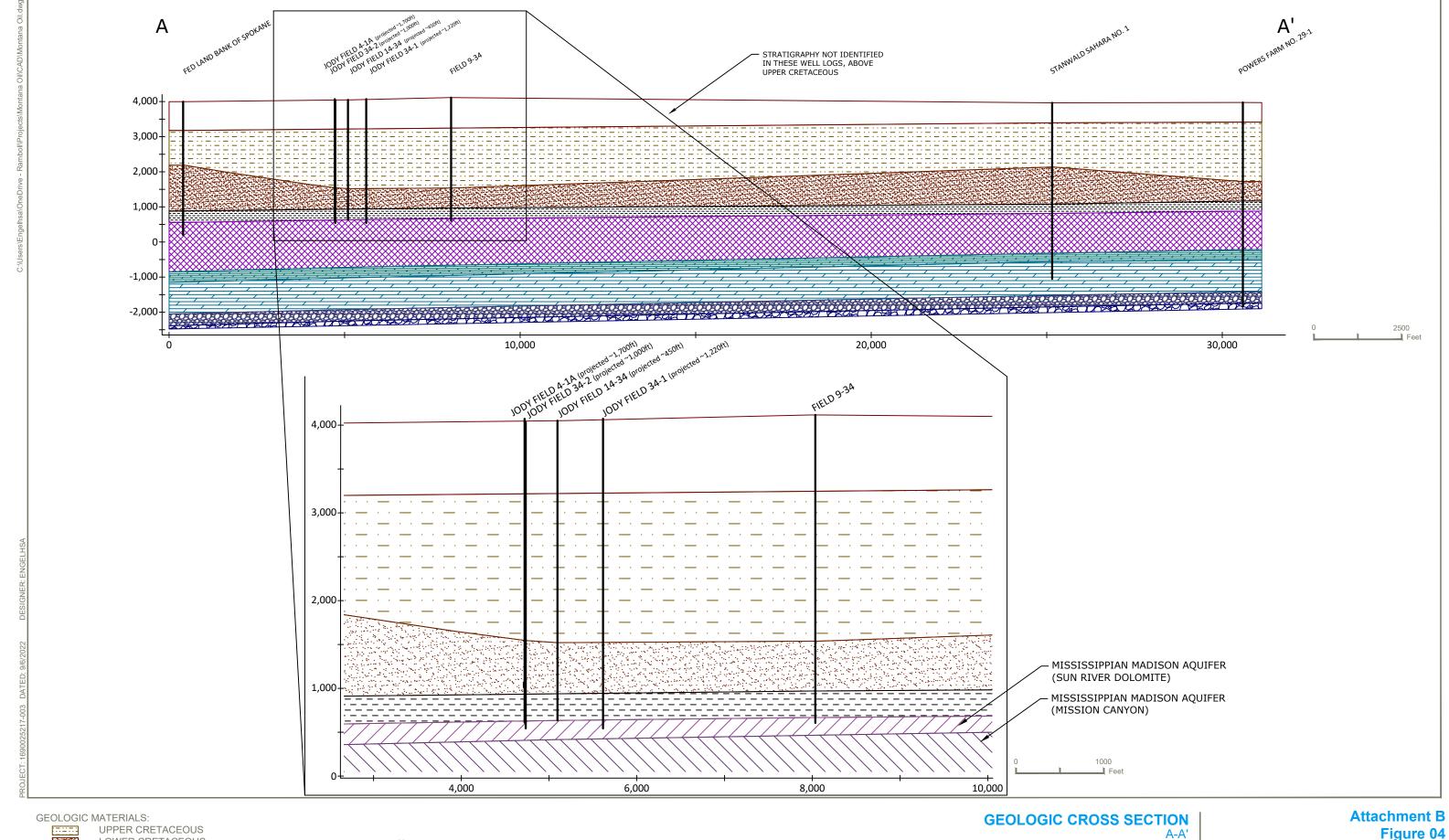
- P&A Approved
- Shut In
- Dry Hole
- Oil

### **GEOLOGIC CROSS SECTION LOCATION**

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS

# Attachment B Figure 03





LOWER CRETACEOUS JURASSIC ELLIS GROUP MISSISSIPPIAN MADISON AQUIFER DEVONIAN - THREE FORKS FORMATION DEVONIAN - DUPEROW AQUIFER CAMBRIAN PRE-CAMBRIAN

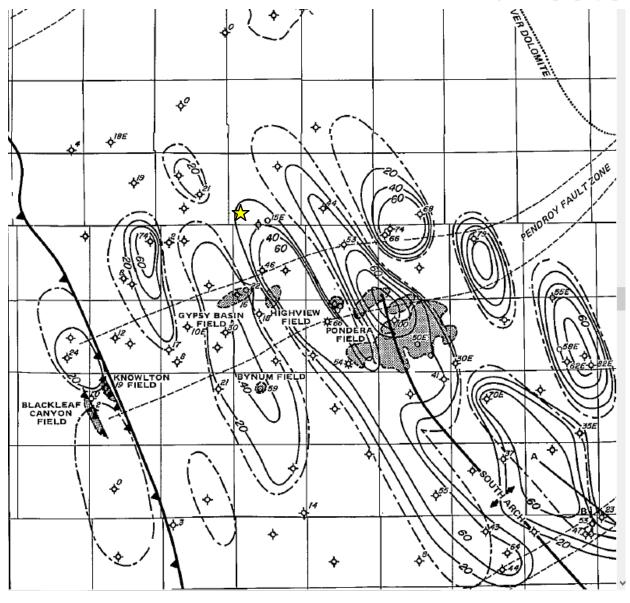
- 1. 1X Vertical Exaggeration
- 2. Stratigraphy interpolated and extrapolated from well logs within ~2,000ft of cross section line A-A'; using 3D visualization software, Earth Volumetric
- 3. Some wells are projected to the cross section line, projection distance is as identified on this figure (behind well name).

MONTALBAN OIL AND GASOPERATIONS INC AREA WIDE AQUIFER EXEMPTION APPLICATION

JODY FIELD WELLS

# Figure 04





Pasternack, Ira, Nature and Distribution of Mississippian Sun River Dolomite Porosity, West Flan of the Sweetgrass Arch, Northwestern Montana, August 16, 1988



# SUN RIVER DOLOMITE POROSITY ISOPACH MAP

MONTALBAN OIL AND GAS
OPERATIONS INC - AREA WIDE UIC
APPLICATION
JODY FIELD WELLS

# Attachment B FIGURE 05



	System, Series, and other subdivisions			Stratigraphic unit			Hydrologic unit											
Era			Powder River Basin (Wyoming and Montana)		Williston Basin (Montana, North Dakota, and South Dakota)		RASA study <sup>5</sup>			nis report	Principal lithology							
		Quaternary		Alluvium		Alluvium and glacial		,		· · · · · · · · · · · · · · · · · · ·								
Cenozoic	_		-		mariam	deposits												
		Pliocene	Upper					Not included in aquifer		N	ot included in aquifer							
									system		system							
	Tertiary	Oligocene	er	White River Formation	White River Formation or Group				-									
	-	Eocene	Lower	Wasa	tch Formation						Lower Tertiary	Sandstone, some siltstone						
		Paleocene		Fort Ur	nion Formation	Fort Union	Formation or Group		Upper Cretaceous	aquifers	Sandstone, some coal							
	,			Land	e Formation	Hell C	Creek Formation		aquifer		Upper Cretaceous	Sandstone, some claystone, siltstone						
					ills Sandstone	Fox I	Hills Sandstone				aquifers	and coal						
					wis Shale	Di 01												
				Mesaverde Formation Steele Shale		Pierre Shale  Niobrara Formation			0.71									
			Upper								0	Shale, some chalk, some bentonite.						
				Co	ody Shale 1	C	arlile Shale		Confining layer		Confining unit	Minor sandstone						
		Cretaceous		Front	ier Formation	1.000	horn Formation Fourche Shale		layor									
C				M	owry Shale	M	owry Shale					Shale						
0709				Mudo	dy Sandstone		Dakota Sandstone 2					Sandstone						
Mesozoic			_	Thern	nopolis Shale	Skull Creek Shale			Lower		Lower	Shale						
			Lower	Inyan Kara	Fall River Formation	Inyan Kara	Fall River Sandstone Fuson Formation	system	Cretaceous aquifer	system	Cretaceous aquifers	Sandstone. Minor conglomerate and silty shale						
				Group	akota Formation	Group	Lakota Formation											
				Morrison Formation		Morrison Formation Swift Formation <sup>3</sup>		S				Shale and silty shale with interbedded						
		Jurassic		Sundance Formation 3/				er										
			Gypsum Spring Formation		Rierdon Formation 3/ Piper Formation 3/		aquifer	Confining layer	aquifer		sandstone							
							a				Shale and limestone							
		Triassic		Chugwater Formation		Spearfish Formation		SU	layer	SL								
				Goose Egg Formation		Minnekahta Limestone		Plains		Plains	Confining	Shale and siltstone						
		Permian					the Formation				unit							
		Pennsylvanian		Tensleer Sandston	Minnelusa 4/ Formation	Amsden Formation	Minnelusa 4	Great	aguifer	Great		Interbedded sandstone, shale and carbonate rocks. Minor anhydrite						
				Amsden Formation		Tyler Formation		Northern	system	Northern		Shale and sandstone						
		Mississippian				Big Snowy Group			Confining layer	Nort		Shale with some sandstone						
													Charles Formation					
O				Madison Limestone		Madison Group	Mission Canyon Limestone		Mississippian aquifer		Upper 6/ Paleozoic aquifers	Limestone, dolomite, and minor anhydrite						
Paleozoic							Lodgepole Limestone											
a				Darb	y Formation	Bakk	en Formation					Shale and siltstone						
		Devonian		and equivalents		Three Forks Formation through Ashern Formation			Confining layer		Confining unit	Shale, shaly limestone, some evaporite beds and salt						
		Silurian				Interlake Formation						Shaly limestone						
		Ordovician		Bighorn	Whitewood	Stone	wall Formation					Limestone, shaly limest						
				Dolomite Dolomite		Red River Formation						Limestone and dolomite						
				Harding Sandstor	Winnipeg Formation	Winnipeg Formation or Group			Cambrian-		Lower 6	Shale, sandstone, and shaly limestone						
									Ordovician aquifer		Paleozoic aquifers	Sandstone, dolomitic lir stone, and shale						
		Cambrian		-	tin Limestone	Deady	wood Formation											
				Gros Ventre Formation Flathead Sandstone		Deadwood Formation						Sandstone						

Locally extends into Upper Cretaceous
 Included in Lower Cretaceous aquifers of this report, where permeable
 Included in Upper Paleozolic aquifers of this report, where permeable
 Included in Upper Paleozolic aquifers of this report, where permeable
 Not differentiated in figure 49

**Figure 50.** Numerous geologic units are part of the Northern Great Plains aquifer system, but only beds of sandstone and carbonate rocks form aquifers. The gray areas represent missing rocks.

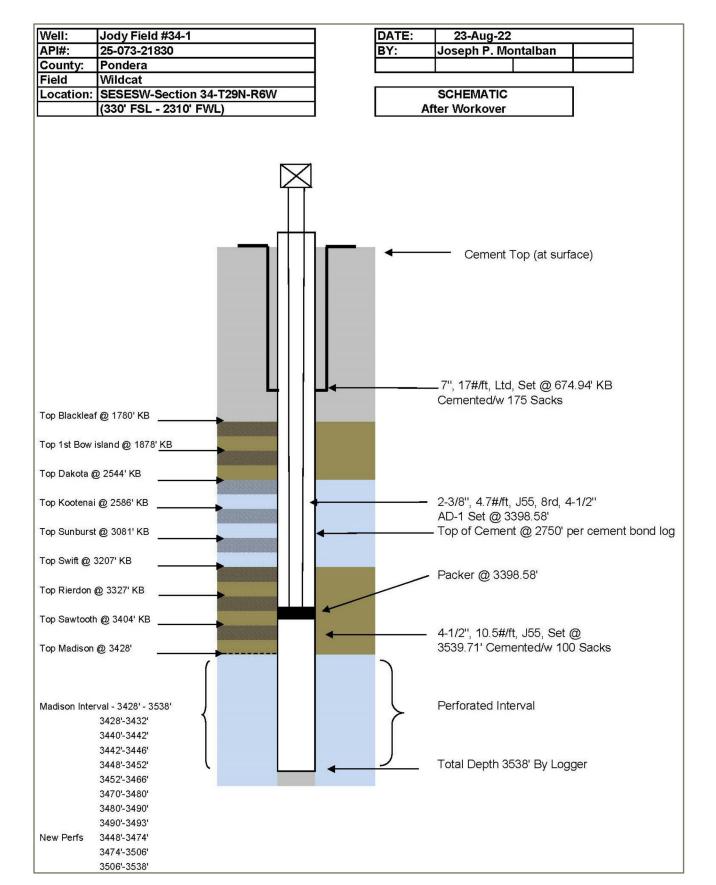
Ground Water Atlas of the United States, Montana, North Dakota, South Dakota, Wyoming HA 730-I

### **NORTHERN GREAT PLAINS AQUIFER SYSTEM -STRATIGRAPHIC COLUMN**

**MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE UIC APPLICATION JODY FIELD WELLS** 

### **Attachment B** Figure 06





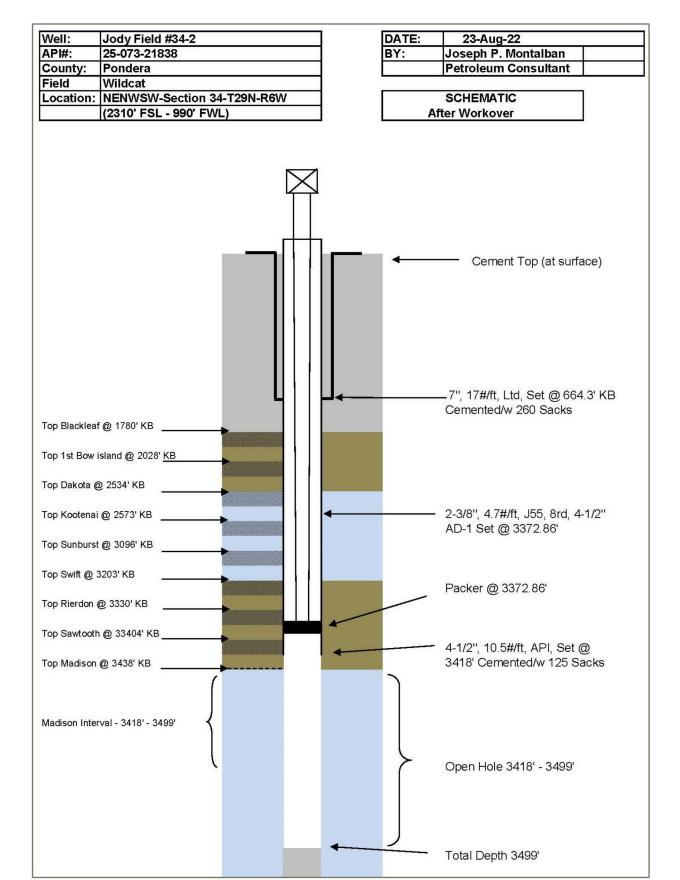


### WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-1

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS

# Attachment B Figure 07







# WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-2

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS



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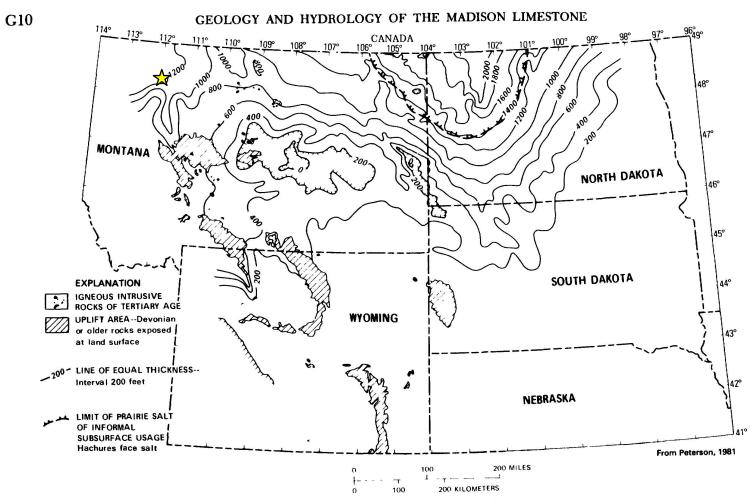


FIGURE 9. - Thickness of Devonian rocks.

Geohydrology of the Madison and Associated Aquifers in Parts 🖈 Approximate Site Location of Montana, North Dakota, South Dakota, and Wyoming

By Joe S. Downey

Geology and Hydrology of the Madison Limestone and Associated Rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming

# THICKNESS OF UNDERLYING DEVONIAN CONFINING LAYER

MONTALBAN OIL AND GAS
OPERATIONS INC - AREA WIDE UIC
APPLICATION
JODY FIELD WELLS

# Attachment B FIGURE 09

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### CountyLines 0 - 1,000 people per sq mi 1,000 - 8,400 people per sq mi 8,400 - 15,800 people per sq mi 15,800 - 24,000 people per sq mi 24,000 - 629,000 people per sq mi KEY MAP (not to scale)

**MONTALBAN OIL AND GAS** OPERATIONS INC - AREA WIDE UIC APPLICATION **JODY FIELD WELLS** 



### **Attachment B** Figure 10

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KEY MAP (not to scale)

### **Privileged and Confidential**

### **EXHIBIT A**

Water Quality Analyses

### ANALYTICAL SUMMARY REPORT

December 05, 2007

Patrick Montalban

Altame on Oil & Gas Inc

PO B 0×488

Cutbank MT 59427

Workorder No.: B07120154

Project Name: Altamont Jody Fields

Energy laboratories Inc received the following 1 sample from Altamont Oil & Gas Inc on 12/4/2007 for analysis.

Samp lelD

Client Sample ID

Collect Date Receive Date

Matrix

Test

B07120154-001 #4 - 1 Well

12/03/07 12:00 12/04/07

Aqueous

Conductivity

Resistivity

Salinity

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except ifnoted in report comments or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By

### LABORATORY ANALYTICAL REPORT

Clie nt

Altamont Oil & Gas Inc

Projed:

Altamont Jody Fields

Lab ID

B07120154-001

Clie ntSample ID: #4 - 1 Well

Report Date: 12/05/07

Collection Date: 12/03/07 12:00

DateReceived: 12/04/07

Matrix: Aqueous

Anal ys:s	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES	1111				2 (1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Salira ity	4.69			0.10		Calculation	12/05/07 08:36 / klc
Conductivity	8480	umhos/cm		1		A2510 B	12/04/07 12:01 / kh
Resistivity @ 68 F	1.18	ohm-m		0.04		E120.1	12/05/07 14:45 / klc



## QA/QC Summary Report

Client:

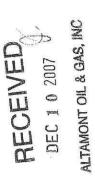
Altamont Oil & Gas Inc

Projec 1: Altamont Jody Fields

Report Date: 12/05/07

Work Order: B07120154

Analyte	Result Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B				ero-40 presidente	The state of the s		Batch: PHSC	071204
Sample ID: PHC1070910A	Laboratory Control Sample			Run: ORIO	N555A_071204A		12/04	/07 08:5
Conductivity	157 umhos/cm	1.0	103	90	110			
Sample ID: PHC1070810A	Laboratory Control Sample	Run: ORION555A 071204A				12/04/07 08:5		
Conductivity	5120 umhos/cm	1.0	102	90	110			a mana
Sample ID: B07120150-001ADUP	Sample Duplicate			Run: ORIO	N555A_071204A		12/04	/07 11:5
Conductivity	907 umhos/cm	1.0			— · · · · · · · · · · · · · · · · · · ·	0.5	10	11.0



### ENERGY LABORA TORIES

# Energy Laboratories Inc Workorder Receipt Checklist

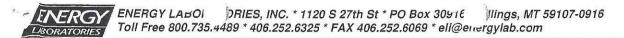
### Altamont Oil and Gas Inc

B07120154

L <b>o</b> şin completed by: Eric L. Frank		Date and Time	Received: 12/4/2007	9:15 AM	
R eviewed by: Staci Fread		Re	ceived by: elf		5
R eviewed Date: 12/4/2007 8:02:40 PM		Carı	rier name: UPS NDA		
Shipping container/cooler in good condition?	Yes 🗹	No 🗌	Not Present		
Custody seals intact on shipping container/cooler?	Yes	No 🗌	Not Present ✓		
Cuslody seals intact on sample bottles?	Yes	No 🗌	Not Present 🗸		£ 5
Chain of custody present?	Yes [	No 🗹		-	
Chain of custody signed when relinquished and received?	Yes	No 🗹		世	3
Chain of custody agrees with sample labels?	Yes	No 🗹		N 20	<b>₩</b>
Samples in proper container/bottle?	Yes 🗸	No 🗌		兴二	N N
Sample containers intact?	Yes 🗸	No 🔲		) EC	ALTAMONT OIL & GAS, INC
Sufficient sample volume for indicated test?	Yes 🔽	No 🗌		or -	ALT
All samples received within holding time?	Yes 🗸	No 🗌			
Container/Temp Blank temperature in compliance?	Yes	No 🗹	14°C		
Water - VOA vials have zero headspace?	Yes [	No 🗌	No VOA vials submitted	$\checkmark$	
Water - pH acceptable upon receipt?	Yes 🖂	No 🖂	Not Applicable		

Contact and Corrective Action Comments:

Letter of instruction provided from client.



### LABORATORY ANALYTICAL REPORT

Client:

Altamont Oil & Gas Inc

Project:

Altamont Jody Fields

Lal ID:

B07120154-001

Client Sample ID: #4 - 1 Well

Report Date: 12/07/07

Collection Date: 12/03/07 12:00

DateReceived: 12/04/07

Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES		3100 10					
Salhity	4.69			0.10		Calculation	12/05/07 08:36 / klc
Conductivity	8480	umhos/cm		1		A2510 B	12/04/07 12:01 / kh
Resistivity @ 68 F	1.18	ohm-m		0.04		E120.1	12/05/07 14:45 / klc

### ANALYTICAL SUMMARY REPORT

January 03, 2008

Patrick Montalban

Altamont Oil & Gas Inc

PO Box 488

Cutbank, MT 59427

Workorder No.: B07120154

Project Name: Altamont Jody Fields

Energy Laboratories Inc received the following 1 sample from Altamont Oil & Gas Inc on 12/4/2007 for analysis.

Sample ID	Client Sample ID	Collect Date F	Receive Date	Matrix	Test
B0712 <b>O</b> 154-00	01 #4 - 1 Well	12/03/07 12:00 1	12/04/07	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Anions by ion chromatography
HATE .					Conductivity Specific Gravity pH
	n 2				Preparation, Dissolved Filtration Resistivity
					ROF report format Salinity Solids, Total Dissolved - Calculated

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except if noted in report comments or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By:

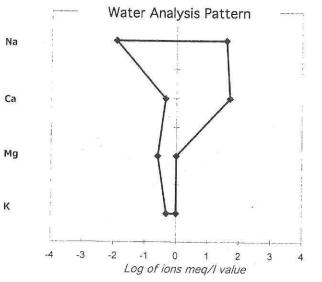


Company: Altamont Oil & Gas Inc	Date: 1/3/2008	
Field: Altamont Jody Fields	Sample Date: 12/3/2007	
County: 0	Formation :	en en en en en en en en en en en en en e
Location: #4 - 1 Well	Rock Type :	
Lab ID: B07120154-001	Depth :	
Comments :	Depth :	

## **Water Analysis Report**

			-	•	
CATIONS Potassium Sodium Calcium Magnesium Irom Barium Strontium SUM +	mg/l 81 1,970 45 48 nd nd nd	meq/l 2.07 85.69 2.25 3.95 nd nd nd		ANIONS Sulfate Chloride Carbonate Bicarbonate Bromide Organic Acids Hydroxide SUM -	mg/l         meq/l           25         0.52           1,380         38.92           <1         0.00           3,120         51.15           nd         nd           nd         nd           ≤1         0.00           4,525         90.59
Solids				Sample Conditions	
Total Dissolved Solids @180°C Total Solids, Calculated Total Solids, NaCl equivalents Chloride as NaCl NaCl, % of Total Dissolved Solids Accuracy		nd mg 5,109 mg 4,298 mg 2,275 mg 44.52 % -2.23 Sig	9/l 9/l 9/l	pH, s.u. (Field) Sample Pressure Surface Temp Downhole Temp Ionic Strength	7.50 s.u. 14.70 psia 70.00 °F na °F 0.096 μ
Dissolved Gases					
Bisulfide ion		nd		District	
Hydrogen Sulfide				Dissolved O <sub>2</sub> , aq	nd
Total Sulfide		nd nd		Total CO <sub>2</sub> , aq	2,427 mg/l
Other Properties				¥	9
Calcium Hardness as CaCO <sub>3</sub>		112 mg	/1	Specific Gravity	1.007 measured
Magnesium Hardness as CaCO <sub>3</sub>		198 mg	0	Specific Gravity	
Total Hardness as CaCO <sub>3</sub>	<del>// ***********************************</del>	310 mg		.50	1.005 calculated
		Jio mg	Į i	Resistivity, 68°F Conductivity 25°C	1.18 ohm-m 8,480 umhos/cm
Microbiological				Scaling Conditions	
Sulfate Reducing nd				Calcium Carbonate	CaCO <sub>3</sub> +
Aerobic Bacteria nd				Calcium Sulfate	CaSO <sub>4</sub>
				Barium Sulfate	BaSO <sub>4</sub> -
14/				Strontium Sulfate	SrSO <sub>4</sub> -
Water A	Analysis Patte	rn —	CI		RECEIVE
			, CI		ONDE IN IN INDI

CO<sub>3</sub>



HCO₃	COMPOUND
	NaHCO3
	NaCl
	Mg(HCO3)2
SO <sub>4</sub>	Ca(HCO3)2

Probable Mineral Res	idue, Dry
Calculation	error = -3.7 %
	error = -3.7 %LTAMONT OIL & GAS, I
COMPOUND	mg/l
VaHCO3	3,705
VaCl	2,275
Mg(HCO3)2	289
Ca(HCO3)2	182
Va2SO4	37.0

Note: nd denotes 'Not Determined'

Probable Mineral Residue, Dry

01/13/00 vEL1.0carney/standish



Client: Altamont Oil & Gas Inc

Revised Date: 12/28/07

Report Date: 12/07/07 Work Order: B07120154

Project: Altamont Jody Fields

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD F	RPDLimit	Qual
Metho d: A2320 B				3,00	ione in analo			Batch: AL	C071220A
SampleD: MBLK	Method Blank				Run: MISC	C-WC_071220L		12/20	/07 10:00
Alkalin ity, Total as CaCO3	2	mg/L	1						
Bicarb orate as HCO3	2	mg/L	. 1						
Carbo male as CO3	ND	mg/L	1.						
Hydro×ide as OH	ND	mg/L	1						
SampleD: LCS	Laboratory Co	ntrol Sample			Run: MISC	C-WC_071220L		12/20	0/07 10:15
Alkalin ity, Total as CaCO3	97.7	mg/L	1.0	96	90	110			
Sample D: B07121500-001ADUP	Sample Duplic	ate			Run: MISC	C-WC_071220L		12/20	0/07 11:00
Alkalin ity, Total as CaCO3	2080	mg/L	1.0				4.5	20	
Bicarb onate as HCO3	2540	mg/L	1.0				4.5	20	
Carbonale as CO3	ND	mg/L	1.0				0.0	20	
Hydro×ide as OH	ND	mg/L	1.0				0.0	20	en a
Method: A2510 B	Type a service and all and an approximate and			<del>aryan sa sa sa sa sa sa sa sa sa sa sa sa sa </del>		***************************************	В	atch: PHS	C071204A
Sample D: PHC1070910A	Laboratory Co	ntrol Sample			Run: ORIO	DN555A_071204A	·	12/04	1/07 08:58
Conductivity	Les Solomin	umhos/cm	1.0	103	90	110			
Sample ID: PHC1070810A	Laboratory Co	ntrol Sample			Run: ORIO	DN555A_071204A		12/04	1/07 08:59
Conductivity	5120	umhos/cm	1.0	102	90	110			
Sample ID: B07120150-001ADUP	Sample Duplic	cate			Run: ORIO	ON555A_071204 <i>A</i>	<b>\</b>	12/0	4/07 11:57
Conductivity	907	umhos/cm	1.0				0.5	10	
Method: A4500 H						Analytica	al Run: O	RION555A	_071220B
Sample ID: PHC1071130A	Initial Calibrati	on Verification	on Standard					12/2	0/07 08:30
рН	7.01	s.u.	0.10	100	98	102			
Method: A4500 H			19110			> IIII (lues d te	E	Batch: PHS	C071220A
Sample ID: B07121618-003ADUP	Sample Duplic	cate			Run: ORI	ON555A_071220E	3	12/2	0/07 17:28
pH	7.76	S.U.	0.10		mark Sixt		1.2	10	



# QA/QC Summary Report

Client: Altamont Oil & Gas Inc Project: Altamont Jody Fields Revised Date: 12/28/07 Report Date: 12/07/07

Work Order: B07120154

Analy te		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	E200.7		-						Bat	ch: 30333
Samp le ID:	MB-30333	Method Blank				Run: ICP20	02-B_071227A		12/27	7/07 11:51
Calciu m		0.04	mg/L	0.009				10		
Magnesium		ND	mg/L	0.01						
Potassium		0.03	mg/L	0.02						
Sodium		ND	mg/L	0.1		<b>.</b>				
Sample ID:	B07121574-001BMS2	Sample Matrix	Spike			Run: ICP2	02-B_071227A		12/27	7/07 12:06
Calciu m		92.7	mg/L	1.0	97	70	130			
Magnesium		67.5	mg/L	1.0	101	70	130			
Potassium		53.0	mg/L	1.0	103	70	130			
Sodium		59.6	mg/L	1.0	103	70	130			
Sample ID:	B07121574-001BMSD2	Sample Matrix	Spike Duplicate			Run: ICP2	02-B_071227A		12/2	7/07 12:09
Calciu m		93.3	mg/L	1.0	98	70	130	0.7	20	
Magnesium		67.3	mg/L	1.0	100	70	130	0.3	20	
Potassium		53.2	mg/L	1.0	104	70	130	0.4	20	
Sodium		60.2	mg/L	1.0	105	70	130	1.0	20	
Method:	E200.7						Analy	rtical R	ın: ICP202-B	071227A
Sample ID:	QCS	Initial Calibration	on Verification Sta	indard					12/2	7/07. 10:09
Calcium		50.1	mg/L	1.0	100	90	110			
Magnesium		49.0	mg/L	1.0	98	90	110			
Potassium		50.7	mg/L	1.0	101	90	110			
Sodium		50.5	mg/L	1.0	101	90	110			





Altamont Oil & Gas Inc

Project: Altamont Jody Fields

### QA/QC Summary Report

Revised Date: 12/28/07

Report Date: 12/07/07

Work Order: B07120154

Analy te		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
	E300.0					W V/// 0.2	Ar	alytical R	un: IC202-B	-510560110400
Samp le ID:	ICV	Initial Calibration	on Verification	Standard						/07 10:02
Chlori de	NAME OF THE PARTY	25.2	mg/L	1.0	101	90	<b>1</b> 10			1707 10:02
Sulfate		101	mg/L	1.0	101	90	110			ž
Method:	E300.0				4,80+Uu x 40+			THE STREET STREET	Batch:	R104331
Samp le ID:	ICB	Method Blank				Run: IC202	2-B 071221A		12/2 1	/07 10:14
Chloride		0.04	mg/L	0.03			_			707 10.14
Sulfate		ND	mg/L	0.06						
Sample ID:	LFB	Laboratory For	tified Blank			Run: IC202	2-B_071221A		12/21	1/07 10:26
Chloride		9.27	mg/L	1.0	92	90	110			
Sulfate		37.2	mg/L	1.0	93	90	110			
Sample ID:	B07120154-001AMS	Sample Matrix	Spike			Run: IC202	2-B_071221A		12/21	1/07 11:35
Chloride	3	2580	mg/L	1.5	96	90	110			
Sulfate		4890	mg/L	3.1	97	90	110			
Sample ID:	B07120154-001AMSD	Sample Matrix	Spike Duplicat	e		Run: IC202	2-B_071221A		12/21	1/07 11:47
Chloride		2560	mg/L	1.5	94	90	110	0.9	20	
Sulfate		4850	mg/L	3.1	97	90	110	0.8	20	

RECEIVED JAN 1 4 2008

# E nergy Laboratories Inc Workorder Receipt Checklist

### Altamont Oil and Gas Inc

B07120154

Logincompleted by: Eric L. Frank  Reviewed by: Staci Fread  Reviewed Date: 12/4/2007 8:02:40 PM		Date and Time Received: 12/4/2007 9:15 A Received by: elf Carrier name: UPS NDA		
Shipping container/cooler in good condition?	Yes 🗹	No 🗌	Not Present	
Custow seals intact on shipping container/cooler?	Yes	No 🗌	Not Present ✓	
Custody seals intact on sample bottles?	Yes	No 🗌	Not Present ✓	
Chain of custody present?	Yes	No 🗹		
Chain of custody signed when relinquished and received?	Yes	No 🗹		
Chain of custody agrees with sample labels?	Yes	No 🗹		
Samples in proper container/bottle?	Yes 🗹	No 🗌		
Sample containers intact?	Yes 🗹	No 🗌		
Sufficient sample volume for indicated test?	Yes 🗹	No 🖂		
All samples received within holding time?	Yes 🗹	No 🔲		
Container/Temp Blank temperature in compliance?	Yes	No 🔽	14°C	
Water · VOA vials have zero headspace?	Yes	No 🖂	No VOA vials submitted 🗹	
Water · pH acceptable upon receipt?	Yes	No 🗌	Not Applicable	

Contact and Corrective Action Comments:

Letter of instruction provided from client.

PECEIVED

JAN 1 4 2008 

ALTAMONT OIL & GAS, INC

PECENED
JAN 1 4 2008

115/2008

Altamont Oil & Gas Inc Patrick Montalban PO Box 488 Cutbank MT 59427

Dulling loss II
Aldrand Freik 41

Augustulk

\*\* REPORT \*\*



### LABORATORY ANALYTICAL REPORT

CIE ent:

MCR LLC

Project:

Berthelote Water Disposal

La bID:

B08042696-002

Client Sample ID: Disp System

Report Date: 05/06/08

Collection Date: 04/24/08 06:45

DateReceived: 04/25/08

Matrix: Aqueous

Araalyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES Solids, Total Dissolved TDS @ 180 C	3220	mg/L		10		A2540 C	04/25/08 13:39 / afb
IN ORGANICS Allkalinity, Total as CaCO3 Sulfate	2010 159	mg/L mg/L	e e	1		A2320 B E300.0	04/25/08 21:40 / kh 04/28/08 20:05 / qed
NUTRIENTS Ni trogen, Nitrate+Nitrite as N	0.14	mg/L		0.05		E353.2	05/02/08 13:39 / bls

West of the server of the Doposet )

Freeds Doposet )

Freeds Doposet )



### ANALYTICAL SUMMARY REPORT

March 11, 2009

Patrick Montalban Altamont Oil & Gas Inc PO Box 488 Cut Bank, MT 59427

Workorder No.: B09030751

Project Name:

Permit

Energy Laboratories Inc received the following 1 sample for Altamont Oil & Gas Inc on 3/10/2009 for analysis.

Test Sample ID Client Sample ID Receive Date Matrix Collect Date B09030751-001 SESW-Section 34-T29N-03/05/09 0:00 03/10/09 Aqueous Solids, Total Dissolved R6W, Jody Fields #14-34

Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By



### LABORATORY ANALYTICAL REPORT

Client:

Altamont Oil & Gas Inc

Project:

Permit

Lab ID:

B09030751-001

Client Sample ID: SESW-Section 34-T29N-R6W, Jody Fields #14-34

Report Date: 03/11/09

Collection Date: 03/05/09

DateReceived: 03/10/09

Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES Solids, Total Dissolved TDS @ 180 C	5440	mg/L		10		A2540 C	03/10/09 16:24 / afb



Client: Altamont Oil & Gas Inc

Project: Permit

Report Date: 03/11/09

Work Order: B09030751

Analyte	Result Units	RL %REC Low Limit High Limit RPD RPDLimit Qual
Method: A2540 C	The second secon	Batch: TDS090310
Sample ID: MBLK2 Solids, Total Dissolved TDS @ 180 C	Method Blank ND mg/L	Run: CPA124S_090310B 03/10/09 16:
Sample ID: LFB2 Solids, Total Dissolved TDS @ 180 C	Laboratory Fortified Blank 1090 mg/L	Run: CPA124S_090310B 03/10/09 16:
Sample ID: B09030751-001A MS Solids, Total Dissolved TDS @ 180 C	Sample Matrix Spike 7770 mg/L	Run: CPA124S_090310B 03/10/09 16:
Sample ID: B09030751-001A MSD Solids, Total Dissolved TDS @ 180 C	Sample Matrix Spike Duplicat	Run: CPA124S_090310B 03/10/09 16:

# Energy Laboratories Inc Workorder Receipt Checklist



### Altamont Oil and Gas Inc B09030751

Login completed by: Krystal McDonald Date and Time Received: 3/10/2009 11:15 AM Reviewed by: Denise Ruby Received by: Ig Reviewed Date: 3/10/2009 12:55:00 PM Carrier name: Std US Mail Shipping container/cooler in good condition? Yes 🗸 No 🖂 Not Present [ Custody seals intact on shipping container/cooler? Yes 🖂 No 🖂 Not Present [7] Custody seals intact on sample bottles? Yes 🗌 Not Present 🗸 No 🗍 Chain of custody present? Yes 🗸 No 🗌 Chain of custody signed when relinquished and received? Yes 🗸 No 🗆 Chain of custody agrees with sample labels? Yes V No 🗆 Samples in proper container/bottle? Yes 🗸 No 🗆 Sample containers intact? Yes 🗸 No 🗌 Sufficient sample volume for indicated test? Yes 🗸 No 🗆 All samples received within holding time? Yes 🗸 No 🗌 Container/Temp Blank temperature: 15°C Water - VOA vials have zero headspace? No VOA vials submitted No 🖂 Yes  $\square$ Not Applicable 🗸 Water - pH acceptable upon receipt? Yes 🗍 No 🗌

Contact and Corrective Action Comments:

None

Record Sample Origin State: MONTANA State: MONTANA State: MONTANA State: MONTANA State: MONTANA Sample: Doug Discourable of the contact ELI prior to Charges and Scheduling – See Instruction Page MENTANGER Scheduling – See Instruction Page Instruction Page Scheduling – See Instruction Page Scheduling – See Instruction Page MENTANGER Scheduling – See Instruction Page Scheduling – See Instruction Page Scheduling – See Instruction Page	Tho Ben Thotagal	Description:  3/9/09  Lab Disposat: XX  Lab Disposat: XX  Interest of this posatility. All sub-contract data will be clearly notated on your analytical report.  This serves as notice of this posatility. All sub-contract data will be clearly notated on your analytical report.  This serves as notice of this posatility. All sub-contract data will be clearly notated on your analytical report.  This serves as notice of this posatility. All sub-contract data will be clearly notated on your analytical report.  This serves as notice of this posatility. All sub-contract data will be clearly notated on your analytical report.
Samples of Contrainers Sample Type: AW SVB o  Sample Type: AW SVB o  Vegetation Blossesy Other  Vegetation Blossesy Other	SAMPLE IDENTIFICATION Collection MATRIX  SESW=SECTION 14-34  SESW=SECTION 14-34  3/5/09  3  5  6  6  7	Custody Reinquistral by lattice Deserting:  Record Reinquistral by lattice 3/9/09  Record Reinquistral by lattice 1 3/9/09  Record Return to Client Lab Diaposat: XX  Signed Sample Disposat: Return to Client This serves as notice of this possibility. All sub-

### **Privileged and Confidential**

### **EXHIBIT B**

Well Reports, Jody Field Wells 34-1 and 34-2

# **Engineering Completion Report**

Montalban Oil & Gas Operations Inc MOGO/Jody Field 34-1 NWNW – Section 34-T29N-R6W (2310' FSL – 990' FWL) Pondera County, Montana API #25-073-21838

> Altamont Oil & Gas Inc Patrick M. Montalban Petroleum Consultant PO Box 488 Cut Bank, MT 59427

### Resume

Spud Date:		August 28, 2008
<b>Completion Date:</b>		May 6, 2008
Status:		Madison Sun River Dolomite Injection Well
Elevation:		4071' GR 4076' KB
Total Depth:		3540' Driller 3539' Logger 4 ½" set @ 3540' Float Collar 3495'
Hole Size:		8 3/4" (0 - 679') 6 1/4" (679' - 3540')
Casing Size:		7", 17#/ft, Ltd, ST&C, set @ 674.94' K w/175 sacks Class G Cement 4 ½", 105#/ft, SPI, J55, ST&C, Rge 3 so @ 3539.71 KB w/100 sacks Class G Cement. Float collar @ 3495.42 KB
Perforations:	New Perforations	3428' - 3432' = 4 SPF = 3 1/8" HSC 3442' - 3446' = 4 SPF = 3 1/8" HSC 3440' - 3442' = 4 SPF = 3 1/8" HSC 3448' - 3452' = 4 SPF = 3 1/8" HSC 3452' - 3466' = 4 SPF = 3 1/8" HSC 3470' - 3480' = 4 SPF = 3 1/8" HSC 3480' - 3490' = 4 SPF = 3 1/8" HSC 3490' - 3493" = 4 SPF = 3 1/8" HSC 3448' - 3474' = 4 SPF = 3 1/8" Exp. 3474' - 3506' = 4 SPF = 3 1/8" Exp. 3506' - 3538' = 4 SPF = 3 1/8" Exp.
Bridge Plug:		None
Tubing:		105 joints 2 3/8", 4.7 #/ft, J55. 8rd, ST&C set @ 3398.58' with 4 ½' x 2 38" ADI
Seating Nipple:		None
Rods:		None
Pump:		None
Pumping Unit:		None

### **Daily Activity Summary**

Wednesday September 2, 2022

70°F – 95°F Clear Sky. 30 mph from the west.

Began operations @ 9:00 am.

Moved in and rigged up Liquid Gold Well Service Rig No. 6. Haul in and set circulating tank and power swivel. Rigged up 2:30 pm. Unseat 4 ½" x 2 3/8" AD-1 packer unseated @ 3:00 pm. Pack off tubing. Start and go through circulating pump. Shut down operations due to high winds 30-40 mph. Shut down operations @ 3:30 pm.

Total Rog Hours: 6 ½ hrs x \$260.0	0=	\$1,690.00
Travel Time: (2 Trucks) (per man	) =	\$180.00
<b>Tracking Costs:</b>		
Pickup Costs: 2 trucks x \$60.00	=	\$120.00
Fuel Surcharge: 10%	=	\$169.00
<b>Environmental Safety</b>	=	\$50.00
<b>Tool Pusher</b>		\$350.00
Extra Labor: 1 man x \$45.00/hr	=	<b>\$292.50</b>
		\$2,851.50
Winch Truck: 3 hrs x \$165.00	=	\$495.00
2 hrs Tanker: 2 x \$165.00	=	\$330.00
1 Pickup: (\$60 per unit)	=	\$60.00
Fuel Surcharge: 10%	=	\$82.50
Pump Truck Mileage: 40 miles x \$	4.00	\$160.00
1 Travel per Man: 2 x \$45.00	=	<u>\$90.00</u>
-		\$1,217.50
1 day Consulting = $1500/2$	=	\$750.00
Mileage: 60 miles x 1.00	=	<u>\$60.00</u>
S		<del>\$810.0</del> 0
<b>Total Daily Costs</b>	=	\$4,879.00

### Thursday September 8, 2022

56°F – Cloudy Sky – 10-15 mph wind from North Began operations @ 8:00 am. Well flowed and equalized on the backside. Pulled and strapped 2 3/8", 4.7#/ft tubing out of the hole. Pulled 105 joints 2 3/8", 4.7#/ft with 4  $\frac{1}{2}$ " x 2 3/8" AD-1 Packer. Tubing tally as follows

 $1 - 4 \frac{1}{2}$ " x 2 3/8" AD-1 Packer = 2.50" 1 - 2 3/8" seating Nipple = 1.10"

105 joints 2 3/8", 4.7#/ft, J55, 8rd = 3391.98'

Total = 3395.58

KB = 3.0

Total String = 3398.58' KB

Stop and pick up 2 joints of 2 3/8" tubing. Tagged as follows and slowly circulated to T.D.

2 joints of 2 3/8" tubing = 3398.58' KB 62.90' 3461.48' KB

Stop and pick up 1 joint of 2 3/8" tubing

1 joint of 2 3/8" tubing = 31.45'
Total 108 joints

Total Tubing = 3492.93' KB

 $48^{\circ}F$  – Raining and very cloudy @ 2:00 pm.

Tagged @ 3461' KB and circulated to total depth 3493' KB and recovered thick black oily sulphur water with many solids. Circulated the last 15' to total depth 3493' KB. Well went on a vacuum and we lost 15 bbls in 1 hour from the circulating tank. Successful clean out of the well. Shut down operations @ 6:00 pm.

Total Rig Hours:  $10 \text{ hrs } \times \$260.00 =$ \$2,600.00 Travel Time: 4 men x 2 hrs x \$45.00 =\$360.00 **Trucking Costs** Pickup Costs: 2 trucks x \$60.00 \$1,200.00 **Circulating Tank: (Pump Tank)** = \$550.00 /day **Power Swivel: 1 x \$250.00** = \$250.00 **Fuel Surcharge: 10%** \$315.00 = **Environmental & Safety** = \$50.00 **Tool Pusher** \$350.00 Swivel Delivery: 40 miles x \$4.00 \$160.00 = 3 7/8" Bit = \$600.00

Bit Sub Extra Labor: \$45.00/hour x 10 hrs Circulating Rubber Pipe Dope	= = = =	\$50.00 \$450.00 \$300.00 \$25.00 \$6,180.00
Vacuum Truck: 2 ½ hrs x \$145.00 1 Pickup 1 hr Travel per Man Fuel Surcharge Total	= = = =	\$362.50 \$60.00 \$90.00 \$36.25 \$548.75
1 day Consulting: 1500/2 Mileage: 60 miles x \$1.00	= =	\$750.00 \$60.00 \$810.00
Total		\$7,538.75

Friday September 9, 2022

43°F – Raining and cold – NW wind from NW Began operations @ 8:00 am. Ran 4  $\frac{1}{2}$ ° x 2 3/8° AD-1 packer with 105 joints of 2 3/8°, 4.7#/ft tubing. Tubing string as follows:

Moved in and rigged up Liquid Gold Pump and Transport Truck. Pressure up backside to 500#/s. Acidized well with 1000 gallons of 28% Hcl (23.8 bbls) Acid job as follows:

=

3398.58' KB

Pumped acid @ 1000#/s to load perforations Pumped 23.8 bbls Hcl acid @ 1000 bbls @ 1 bbl/minute Pumped displacement @

> Pumping – 2.0 bbls/minute @ 1200#/s Pumping – 3.0 bbls/minute @ 1750#/s Pumping – 3.0 bbls/minute @ 1100#/s Over displaced by 30.0 bbls

Instant shut in Pressure = 1000#/s 5 minute shut in Pressure = 100#/s 7 minute shut in Pressure = 0#/s

**Total String KB** 

Well on a vacuum. Unseat 4 ½" x 2 3/8" AD-1 Packer and pulled 105 joints of tubing. Pick up 3 7/8" bit and sub and ran tubing string as follows:

1 – 3 7/8" bit and bit sub 108 joints 2 3/8", 4.7#/ft	=	1.25
J55, 8rd, ST&C	=	3492.93'
<b>Total String</b>	=	3494.18'
Pick up 1 joint 2 3/8" tubing Total string = 109 joints	=	31.45
Total string – 107 joints		3525.63 Gr
Add KR	_	3 0'

Add KB <u>3.0°</u> 3528.63 KB

Tagged float collar @ 3492.93 KB. Picked up power swivel and began to drill float collar @ 3:00 pm. Drilled from 3 7/8" from 3:00 pm to 5:30 pm. Shut down operations @ 5:30 pm

Total Rig Hours: 9 hrs x \$260.00	=	\$2,470.00
Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00 per	man =	\$270.00
Fuel Surcharge: 10%	=	\$357.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor: \$350.00 per day	=	\$350.00
Pump Tank: \$550.00 per day	=	\$550.00
Power Swivel: \$550.00 per day	=	\$550.00
4 1/2" AD-1 Packer: Rental 1 day x	\$250 =	\$250.00
Crossover Sub	=	<u>\$50.00</u>
Total Rig Costs	=	\$5,017.00

### Acid Job = 1000 gallons 28% Hcl

Acid Pump Truck	=	\$1,600.00
Pump Truck Mileage		
Bulk Acid Truck: \$750 per day	=	\$750.00
Mileage Bulk truck: \$4.00/mile x	40 mile	s \$160.00
1000 gallons 28% Hcl	=	\$3,250.00
Additives	=	\$489.50
1 Pickup: \$60.00 per day	=	\$60.00
Fuel Surcharge: 10%	=	\$249.50
<b>Environmental &amp; Safety</b>	=	\$75.00
Total Costs	=	\$6,779.00
		•

**Total Rig Costs** \$11,796.00 =

Consulting: \$1500per day/2 \$750.00 **Mileage: 60 miles x \$1.00** \$60.00 = \$810.00

\$12,606.00 **Total** 

Monday September 12, 2022

59°F – Very Smokey – North/North West wind 15 mph. Began operations @ 8:00 am. Rigged up power swivel and drilling equipment. Drilled from 9:00 am – 10:30 am. Drilled out 4 ½" float collar @ 10:30 am. Drilled 3 7/8" hole from 3495' to 3528.63'. Picked up 110th joint and drilled from 3528.63' to 3538.63' from 10:30 am to 12:00 pm. Drilled 3 7/8" hole from 3583.63' to 3543'. Tag guide shoe. Began to torque up 3 7/8" bit. Total depth @ 3543' KB by rig operators. Circulate and clean hole. Total pipe tally below:

1-37/8" bit and bit sub	=	1.25'
Ran 109 2 3/8", 4.7#/ft, J55, 8rd ST&C Rge 3	=	3524.38'
<b>Total String</b>	=	3525.63
Add KB = 3'	=	3.00° 3528.63°
Picked up 110 joints = 31.45'		4.4.04
Drilled 14' of the 110 joints	=	<u>14.0'</u>
<b>Total String</b>		3542.63'

Total depth 3543.0' KB by rig operator. Circulated hole clean for 1 hr. Hole clean. Tripped 110 joints out of the hole. Pick up 3 7/8" bit and casing scraper.

69° - Very smokey – North/Northwest wind @ 15 mph Trip 110 joints 2 3/8", 4.7#/ft tubing into hole and tag total depth 3543' KB by operator. Circulated hole and reciprocate a number of times from 3420' – 3543' KB. Circulated tubing and rotate tubing and well cleaned out to total depth with no fill. Lift tubing above 3420'. Shut down operations @ 5:00pm.

Total Rig hours: 9hrs x \$260.00	=	\$2,340.00
Daily Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45/hr/ma	n =	\$360.00
Fuel Charge: 10%	=	\$344.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump & Tank	=	\$550.00
Power Swivel	=	\$550.00
4 ½" Scraper	=	\$150.00
3 7/8" Bit for Scraper	=	\$200.00
Extra Labor: (1 guy) \$45/hr	=	\$405.00
Bit Sub	=	\$50.00

Tuesday September 13, 2022

59°F – Very Smokey – Very little wind Began operations @ 11:00 am. Tripped to total depth 2543' KB and tagged no fill. Rolled hole and circulated well clean. Trip out of hole for perforating company. Rigged up Nine Energy Service @ 2:00 pm. Ran 3.75" gauge ring to total depth 3538' KB. Perforated 3506' – 3538' = 4 SPF, 3 1/8" expendable gun. 32' = 120 shots, successful shooting. Perforated 3474' – 3506' = 4 SPF, 3 1/8" expendable gun. 32' = 120 shots, successful shooting. Perforated 3448' – 3474' = 4 SPF, 3 1/8" expendable gun. 26' = 96 shots, successful shooting. Shot 90' of the Sun River Dolomite Formation. Rigged down Nine Energy Service. Tripped in \_\_\_\_\_ joints of 2 3/8" tubing with a 4 ½" x 2 3/8" SD-1 Packer with 3 joints of tail pipe. Tubing tally as follows:

1-23/8" seating nipple	=	1.10'
105 joints 2 3/8", 4.7#/ft, J55, 8rd		
ST&C Rge 3	=	3391.98'
Total		3395.58'
KB = 3'	=	<u>3.0'</u>
		3398.58'
3 joints of tubing = total 108 joints	=	<u>94.35'</u>
3 joints of tubing below packer		

2.50

3492.93

Set @\_\_\_

Packer set @

 $1 - 4\frac{1}{2}$ " x 2 3/8" AS-1 Packer

Set  $4\frac{1}{2}$ " x 2 3/8" AS-1 Packer @ 3399' KB. Shut down operations @ 6:30 pm

3398.58' KB

Total Rig Hours: 7 ½ x \$260.00	=	\$1,950.00
Daily Pickup: 2 hrs x &60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/man	=	\$270.00
Fuel Surcharge: 10%	=	\$250.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump & Tank	=	\$550.00
Pipe Dope	=	<u>\$25.00</u>
<b>Total Costs</b>	=	\$3,515.00

3 hours water tanker: 3 x \$165.00 = \$495.00 2 hours pickup: 2 x \$45.00 = \$90.00 1 pickup: = \$60.00 Fuel Surcharge: 10% = \$49.50 Environmental: \$50.00/day = \$50.00 \$744.50

**Nine-CDK Perforating LLC** 

Perforated Madison Sun River Dolomite \$28,770.00

1 day Consulting: 1500/2 = \$750.00 Mileage: 60 miles x \$1.00/mile = \$60.00 \$810.00

**Total Daily Costs** = \$33,839.50

### **Perforating Summary**

MOGO/Jody Fields 34-1 SESESW Section 34-T28N-R6W Pondera County Montana

No. 1 Perforated Interval
Perforated Formation – Madison Sun River Dolomite
Perforated Interval – 3506' – 3538'
3 1/8" Expendable Gun = 33.2" Penetration .55 Diameter
4 SPF = 120 Shots
Collar Locator = 3503'7"
Shot @ 3:21 pm
Successful Shooting

No. 2 Perforated Interval
Perforated Formation – Madison Sun River Dolomite
Perforated Interval – 3474' – 3506'
3 1/8" Expendable Gun = 33.2 Penetration .55 Diameter on shot hole
4 SPF = 120 Shots
Collar Locator 3503'7"
Shot @ 3:57 pm
Successful Shooting

No. 3 Perforated Interval
Perforated Formation – Madison Sun River Dolomite
Perforated Interval – 3448' – 3474'
3 1/8" Expendable Gun = 33.2 Penetration .55 Diameter on shop hole
4 SPF = 96 shots
Collar Locator = 3445'7"
Shot @ 4:29 pm
Successful Shooting

55°F – Very Smokey – Wind from NW @ 9 mph Began operations @ 8:00 am. Moved in and rigged up Liquid Gold Well Service Pump Truck and Acid Transport. Pressured backside to 600#/s. Held OK. Began acid job @ 10:00 am. Acidized well with 1000 gallons of 28% Hcl Acid as follows:

Total Acid = 23.8 bbls Total displacement = 15.5 bbls. Load acid in tubing. Acid on perforation with 13.5 bbls pumping @ 400#/s. Acid job as follows:

Pumped 2.0 bbls/min @ 900#/s Pumped 2.0 bbls.min @ 1000#/s Pumped 23.8 bbls of acid and start displacement Pumped 2.0 bbls/min @ 900#/s pumped 13.5 bbls of displacement

Pumping 3.0 bbls/min @ 1400#/s 10 bbls over displacement
Pumping 3.0 bbls/min @ 1500#/s 10 bbls over displacement
Pumping 3.0 bbls/min @ 1000#/s 10 bbls over displacement
Pumping 3.0 bbls/min @ 1000#/s 5 bbls over displacement

### Pumped 35.0 bbls over displacement

ISI = 600#/s 1 minute shut in = 100#/s 2 minute shut in = vacuum

Job ended. Moved out Liquid Gold Equipment Unseat 4 ½" x 2 3/8" AD-1 Packer

1:00 pm – 59°F – Very Smokey Tripped out 105 joints of 2 3/8" tubing. Remove packer. Pickup rebuilt 4 ½" x 2 3/8" AD-1 packer. Ran tubing as follows:

 $1-4\frac{1}{2}$ " x 2 3/8" AD-=1 Packer = 2.50' 1-2 3/8" Seating Nipple = 1.10'

105 joints 2 3/8", 4.7#/ft, J55, 8rd ST&C tubing = 3391.58'

> Total String = 3395.58' KB = 3.0'

**Tubing set @ 3398.58' KB** 

Rolled to casing with 50 bbls of corrosion inhabitated water. Fluid clean. Landed 4 ½" x 2 3/8" AD-1 Packer with 13,000#/s over string weight. Held OK. Ran MIT test on well as follows:

<b>Time</b>	<b>Pressure</b>	Result
2:24 pm	450#/s	Held OK
2:29 pm	450#/s	Held OK
2:34 pm	450#/s	Held OK

Passed MIT test. Rigged down and moved Fields #34-2. Shut down operations @ 3:00pm

Total Rig Hours: 7 hrs x \$260.00	=	\$1,820.00
Daily Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 1 hr x \$45.00/man	=	\$135.00
Fuel Surcharge: 10%	=	\$237.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor	=	\$350.00
Pump & Tank	=	\$550.00
4 ½" Redress Packer	=	\$500.00
2" fill port part 3000#/s valve		
For acid job & pressure handline	=	\$540.00
4 ½" x 2 3/8" AD-1 for acid job	=	\$250.00
Pipe Dope	=	<u>\$25.00</u>
<b>Total Costs</b>	=	\$4,442.00

### Acid job 1000 gallons 28% Hcl

Acid Pump Truck	=	\$1,600.00
<b>Bulk Acid Truck</b>	=	\$750.00
Bulk Mileage	=	\$160.00
Bulk Acid 1000 gallons @		
3.25 x 1000	=	\$3,250.00
Additives	=	\$704.50
Environmental: \$75.00/day	=	\$75.00
1 Pickup	=	\$60.00
Fuel Surcharge: 10%	=	\$301.00
<b>Total Costs</b>	=	\$7,560.00
1 Day Consulting: 1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	\$60.00
		\$810.00

Total Daily Costs =

\$12,812.00

**Total Workover = \$77,979.25** 

# **Engineering Completion Report**

Montalban Oil & Gas Operations Inc MOGO/Jody Field 34-2 NENWSW – Section 34-T29N-R6W (2310' FSL – 990' FWL) Pondera County, Montana API #25-073-21838

**Lone Man Coulee Field** 

Altamont Oil & Gas Inc Patrick M. Montalban Petroleum Consultant PO Box 488 Cut Bank, MT 59427

# Resume

Spud Date:	August 7, 2008
Completion Date:	August 18, 2008
Status:	Madison Sun River Dolomite Injection Well
Elevation:	4033' GR 4038' KB
Total Depth:	3415' Driller 3451' Logger
Hole Size:	8 <sup>3</sup> / <sub>4</sub> " (0 – 668') 6 <sup>1</sup> / <sub>4</sub> " (668' – 3415') 3 7/8" (3415' – 3451') New Open Hole
Casing Size:	7", 17#/ft, Ltd, ST&C, set @ 664.30' KB cemented w/260sacks Class G Cement 4 ½", 10.5#/ft, API, J55, ST&C, Rge 3 set @ 3418' KB w/125 sacks Class G Cement.
Perforations:	None
Bridge Plug:	None
Open Hole:	3418' – 3499' KB
Tubing:	107 joints 2 3/8", 4.7 #/ft, API, J55, Rge set @ 3366.36
Seating Nipple:	3365.16 KB
Rods:	None
Pump:	None
Pumping Unit:	None
Status:	Injection Well

# **Daily Activity Summary**

Wednesday	7	
September	14,	2022

70°F – Partly Cloudy – Smokey – NW wind @ 10 mph. Began operations @ 3:00 pm. Moved in and rigged up Liquid Gold Well Service Rig No. 6. Unseat 4 ½" x 2 3/8" AD-1 packer. Trip 107 joints of 2 3/8", 4.7#/ft, J55, API out of hole. Strapped out of the hole. 4 ½" x 2 3/8" AD-1 packer looked good. Shut down operations @ 7:00 pm

Total Rig Hours: 4hrs x \$260.00 = \$1,040.00 Pickup Travel: 1 hr x 1 hr x \$45.00/man \$135.00

Environmental = \$50.00 Fuel Surcharge: 10% = \$104.00

Total Costs = \$1,279.00

Thursday September 15, 2022

 $60^{\circ}F$  - Smokey - Partly Cloudy - Very little wind Began operations @ 8:00 am. Moved in circulating tank and power swivel. Haul H2O into location to fill tanks and clean well out to total depth: 3451'. Ran 109-2 3/8", 4.7#/ft, J55, 8rd with 3 7/8" bit to clean out well to total depth 3451'. Tubing as follows:

Out

Total String = 3420.90' KB = 3.00' 3423.90' KB

3423.90

In

Finish hauling equipment and H2O into circulating tanks. Need to clean out 27' out of open hole.

# Thursday September 15, 2022

 $64^{\circ}F$  – Smokey – Slight rain @ 3:00 pm. Tagged tubing @ 3424' KB. Cleaned out 3 7/8" hole from 3424' to 3451'. Hard drilling. Could be drilling on float collar from 4 ½" casing. Total depth by operator 3451' KB. Shut down operations @ 6:00 pm.

Total Rig Hours: 10 hrs x \$260.00	=	\$2,600.00
Daily Pickup: 2 trucks x \$60.00	=	\$170.00
Pickup Travel: 2 hrs x \$45.00/man	=	\$270.00
Fuel Surcharge: 10%	=	\$370.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump and Tank	=	\$550.00
Power Swivel	=	\$550.00
Bit Sub	=	\$50.00
3 7/8" Bit	=	\$200.00
Trailer Rental	=	\$100.00
Pipe Dope	=	<u>\$25.00</u>
<b>Total Costs</b>	=	\$5,235.00

# **Other Costs**

Winch Truck: \$165.00/hr 5 x \$165	.00	\$825.00
Tanker: 2 hrs x \$165.00/hr	=	\$330.00
Vacuum Truck: \$145.00/hr x 2 hrs	<b>s</b> =	\$290.00
<b>Environment Safety</b>	=	\$75.00
Fuel Surcharge	=	<b>\$144.00</b>
		\$1,664.50

Consulting: \$1500/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$\frac{\$60.00}{\$810.00}

Total Daily Costs = \$7,709.50

Friday September 16, 2022

55°F – Little Smokey – Little wind – Slight rain Began operations @ 8:00 am. Circulate & clean out well bore. Continue to torque up 3451'. Lose approximately 5 – 6 bbls of H2O overnight and while cleaning well bore. Drill on float collar on bottom & finish cleaning well bore. Trip out  $109 - 2 \ 3/8$ ", 4.7#/ft, J55, 8rd joints of tubing with 3 7/8" bit. Remove bit and change over and trip in hole with  $107 - 2 \ 3/8$ ", 4.7#/ft, J55, 8rd joints of tubing with 4 ½" x 2 3/8" AD-1 packer. Shut down operations @ 3:30 pm.

Total Rig Hours: 7 1/2hrs x \$260.00	0 =	\$1,950.00
Daily Pickup: 2 trucks = $2hrs \times $60$		\$120.00
Pickup Travel: 2hrs x \$45.00/man		\$270.00
Fuel Surcharge: 10%	=	\$305.00
<b>Environmental &amp; Safety</b>	=	\$50.00
<b>Supervisor &amp; Tool Pusher</b>	=	\$350.00
Pump and Tank	=	\$550.00
Power Swivel	=	\$550.00
<b>Change Over for Bit</b>	=	\$50.00
Wellhead Rubber	=	\$300.00
Trailer	=	\$100.00
Pipe Dope	=	<b>\$25.00</b>
<b>Total Daily Costs</b>	=	\$4,620.00
1 day consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	\$60.00
		\$810.00
<b>Total Costs</b>	=	\$5,430.00

Monday September 19, 2022

60°F – Partly Cloudy

Began operations @ 8:00 am. Well on a vacuum. Set  $4\frac{1}{2}$ " x 2 3/8" AD-1 packer with 15,000#/s over string weight. Tubing string as follows:

3.00

**KB** 

Pressure tested and pressure up backside to 500#/s. Held OK. Acidized well with 100 gallons 28 Hcl. Acid job as follows:

Acid Job = 1000 gallons 28% Hcl

Pumped 1.0 bbls acid @ 1.5 bbl/min @ 500#/s Pumped 2.3 bbls acid @ 1.5 bbl/min @ 750#/s Pumped 10 bbls acid @ 1.5 bbl/min @ 1000#/s Pumped 10 bbls acid @ 1.5 bbl/min @ 1000#/s Total 23.8 bbls acid

Pumped 5.0 bbls of water after acid job. Shut down for 5 minutes and pressure dropped form 1000#/s to 500#/s.

Over-Displaced Acid job with 35 bbls as follows:

Pumping @ 3.0 bbls/min @ 1250#/s 10 bbls displaced

Pumping @ 3.0 bbls/min @ 1500#/s 10 bbls displaced

Pumping @ 3.0 bbls/min @ 1750#/s 10 bbls displaced

Pumping @ 3.0 bbls/min @ 1850#/s 5 bbls displaced

Total 35.0 bbls displaced

Instant Shut in = 1500#/s 5 min shut in = 1100#/s 10 min shut in = 900#/s 15 min shut in = 800#/s

Well flowed back 11.0 bbls after acid job. Tripped in with 3 7/8" bit and sub and tagged on the 100<sup>th</sup> joint. Tubing string as follows:

1-37/8" Bit = 2.50' 1-37/8" x 23/8" changeover sub = 1.10' 110 joints of 23/8" x 4.7#/ft, J55 8rd, ST&C Tubing = 3460.70' 3' KB = 3.00' Total String = 3467.30' KB

Drilled down on the  $110^{th}$  joint. Drilled fairly easy with a few tight spots. Shut down operations @ 6:00 pm

Total Rig Hours: 10hrs x \$260.00	=	\$2,600.00
2 Trucks: 2 x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/mar	ı =	\$270.00
Fuel Surcharge: 10%	=	\$370.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor & Tool Pusher	=	\$350.00
New 3 7/8" Bit	=	\$1,400.00
Pump and Circulating Tank	=	\$550.00
Power Swivel	=	\$550.00
Trailer	=	\$100.00
Tubing Wiper Rubber	=	\$25.00
Bit Changeover 3 7/8" x 2 3/8"	=	\$50.00
Pipe Dope	=	\$25.00
1 – 4 ½" AD-1 Packer (Acid Job)	=	<u>\$250.00</u>
		\$6,710.00
1000 gallon 28% Hcl Acid Job		
1 – Acid Pump Truck	=	\$1,600.00
1 – Bulk Acid Truck	=	\$750.00
Bulk Mileage: 4.00/mile	=	\$160.00
1000 gallons 28% Acid \$3.25/gallo	n	\$3,250.00
Additives	=	\$549.50
Fuel Surcharge: 10%	=	\$301.00
Environmental	=	\$75.00
2 Travel \$45.00/man	=	<b>\$90.00</b>
		\$7,164.50
1 1 6 14 01700/2		<b>6550.00</b>
1 day Consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	\$60.00
		\$810.00
<b>Total Daily</b>	=	\$14,684.50
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Tuesday September 20, 2022

49°F – Partly Cloudy – Wind from N to NW. Began operations @ 8:00 am. Picked up 111 joint and drilling. Tubing string as follows:

1 – 3 7/8" Bit	=	2.50'
1 - 37/8" x 2 3/8" change over	=	1.10'
111 joints 2 3/8" x 4.7#/ft		
J55, 8rd, ST&C Rge 3	=	3492.28'
Total String	=	3495.88'
3.0 KB	=	3.00°
		3498.88' KB

Drilled to total depth 3498.88 KB. Drilling fairly well. Drilling slows down after a break. Have not lost volume. Drilled to total depth 3499' KB Shut down operations @ 5:30 pm

TE / LD: II 01/1 02/00/		00 410 00
Total Rig Hours: 9 ½ hrs x \$260.00	)=	\$2,410.00
Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/hr/m	ıan	\$270.00
Fuel Surcharge: 10%	=	\$357.00
Environmental & Safety	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump and Tank	=	\$350.00
Power Swivel	=	\$550.00
Trailer	=	\$100.00
<b>BA Sub and Cross Over</b>	=	\$50.00
Pipe Dope	=	<b>\$25.00</b>
-		\$4,892.00
Consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	\$60.00
9		\$810.00

**Total Costs** 

Wednesday September 21, 2022

# 32°F - Sunny - No Wind

Began operations @ 8:00 am. Circulated and clean open hole to 3499' KB by operator. Circulated hole 30 minutes to clean to total depth. Tripped 3 7/8" bit and tubing out of hole. Tripped in 4  $\frac{1}{2}$ " x 2 3/8" AD-1 packer for acid job. Tubing string as follows:

\$5,702.00

Circulated corrosion inhibitor on the backside. Set  $4\frac{1}{2}$ " x 2 3/8" AD-1 packer set @ 3372.96 KB with 15,000 #/s over string weight. Pressure up backside to 500#/s. Held OK. Need to repair pump truck. Shut down operations @ 5:00 pm.

Total Rig Hours: 9 hrs x \$260.00 = \$2,340.00 Daily Pickup: 2 trucks x \$60/truck = \$120.00

Pickup Travel: 2 hrs x \$45.00/mar	<b>1</b> =	\$270.00
Fuel Surcharge: 10%	=	\$289.00
Environmental & Safety	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump and Tank	=	\$550.00
Power Swivel	=	\$200.00
Redress 4 1/2" AD Packer	=	\$500.00
Bit Crossover Sub	=	\$50.00
Dope	=	\$25.00
Trailer	=	<u>\$100.00</u>
<b>Total Daily Costs</b>	=	\$4,844.00
•		
Other Costs		
1 Pump Truck	=	\$750.00
Vacuum Truck: 2 hrs x \$145/hr	=	\$290.00
Environmental: \$75.00/day	=	\$75.00
Fuel Surcharge: 10%	=	\$104.00
<b>Total Costs</b>	=	\$1,219.00
		,
1 day Consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	<u>\$60.00</u>
Total Costs	=	\$810.00
<b>Total Daily Costs</b>	=	\$6,873.00
•		,

Thursday September 22, 2022

46°F – Cloudy – Slight Rain – Wind from SW Began operations @ 10:00 am. Moved in and rigged up Liquid Gold Well Service Acid Bulk Truck and Pump Truck. Acidized well with 1000 gallons 28% Hcl. Acid job as follows:

1000 gallons 28% Hcl Acid
23.8 bbls of Acid
13.55 bbls of tubing volume

Began job @ 10:52 am:

Pumped 28.0 bbls of acid from 300#/s to 800#/s @ 1.5 bbls/minute Finished pumping acid @ 800#/s @ 1.5 bbls/minute Shut down and pressure dropped to 500#/s

Displaced 48.0 bbls as follows

Pumped 13.5 bbls 110#/s @ 1.6 bbls/minute Over-displaced by 35bbls as follows

Pumped 5.0 bbls @ 1600#/s @ 3 bbls/minute Pumped 10.0 bbls @ 1650#/s @ 3 bbls/minute Pumped 10.00 bbls @ 1700#/s @ 3 bbls/minute Pumped 10.0 bbls @ 1700#/s @ 3 bbls/minute

# Pumped 48.5 bbls displacement

Instant shut in	=	1100#/s
5 min shut in	=	650#/s
10 min shut in	=	350#/s
15 min shut in	=	200#/s

Well in a vacuum. Rigged down Liquid Gold Well Service. Ran MIT test for state @ 3:00 pm. Pressured up backside to 345#/s. Slow leak. Moved packer and pulled 15,000#/s over packer. Pressure tested to 350#/s. Failed test. Pulled tubing and packer to repair leak. Shut down operations @ 5:30 pm

Total Rig Hours: 7 ½ hrs x \$260.0	0=	\$1,950.00
Daily Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/mai	n =	\$270.00
Fuel Surcharge: 10%	=	\$250.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump & Tank	=	\$500.00
Tailer	=	<u>\$100.00</u>
<b>Total Costs</b>	=	\$3,640.00

# **Acid Job**

1 Pump Truck	=	\$1,600.00
Bulk Acid Truck	=	\$750.00
<b>Bulk Mileage: 4.05/miles</b>	=	\$160.00
1000 Bulk Acid: 3.25/gallon	=	\$3250.00
Additions	=	\$684.50
Fuel Surcharge: 10%	=	\$280.50
2 Vacuum Trucks: \$145.00/load	=	\$290.00
<b>Environmental &amp; Safety</b>	=	<u>\$75.00</u>
<b>Total Costs</b>	=	\$7,254.50

# **MI Test**

Tanker Truck: 2 ½ hrs x \$165.00	=	\$412.50
Vacuum Truck: 2 ½ hrs x \$145.00	=	\$290.00
Pickup: 1 truck x \$60.00	=	\$60.00
Travel: 1 hr x \$45.00/man	=	\$90.00
Fuel Surcharge: 10%	=	<u>\$70.00</u>
<b>Total Costs</b>	=	\$922.50

1 day Consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	<u>\$60.00</u>
<b>Total Costs</b>	=	\$810.00

Friday September 23, 2022

55°F – Clear – Slight wind from the East Began operations @ 8:00 am. Tripped 2 3/8", 4.7#/ft, J55, 8rd, with 4 ½" scraper to 3373' KB. Added 10' tubing sub and cleaned to 3383 KB. Dropped standing valve and pressured tubing to 500#/s. Slow leak. Pressure testing tubing to 1000#/s. Could not find hole. Ran 45 joints, ran 24 joints and ran 12 joints would hold 1000#/s and slowly leak off. Ran 2 more joints would not hold. Ran 83 joints into hole. Shut down operation for night. Did not find tubing leak. Shut down operations @ 4:00 pm.

Total Rig Hours: 8 hrs x \$260.00	=	\$2080.00
Daily Pickup: 2 hrs @ \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/man	=	\$270.00
Fuel Surcharge: 10%	=	\$208.00
<b>Environmental and Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Redress 4 ½" AD-1	=	\$500.00
4 ½" Scraper	=	\$150.00
3 7/8" Bit on Scraper	=	\$200.00
Trailer	=	\$100.00
Pipe Dope	=	<u>\$25.00</u>
<b>Total Costs</b>	=	\$4,053.00

1 day Consulting: \$1500/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$\frac{\$60.00}{\$810.00}

ψ010.00

**Total Costs** \$4,863.00

Tuesday September 27, 2022

82°F – Clear – Wind from South 8 -10 mph Tripping in hole and pressuring tubing to find leak. Pressured to 2000#/s and Held OK. Added 2 joints and pressured to 2000#/s. Slow leak. Found leak on the 100<sup>th</sup> joint. Very small leak. Could not find without pressure on tubing. Tripped 2 3/8" x 4.7#/ft, J55 with 4'6" packer. Fished standing valve with sand line. Tubing string as follows. Replace 110 joint was 31.70' with a new joint of 31.60'.

1 – 4 ½" AD-1 Packer = 2.50' 1 – 2 3/8" Seating Nipple = 1.10'

107 joints 2 3/8", 4.7#/ft, J55

8rd tubing = 3366.26'

Total String = 3369.86 Gr

 $3.0' \text{ KB} = \frac{3.0'}{3372.86 \text{ KB}}$ 

Filled the backside with produced H2O. Ran MIT on well as follows

MIT Test Began @ 4:32 pm

<u>Time</u>	<b>Pressure</b>	Time Sch			
4:32 pm	360#/s	0			
4:37 pm	360#/s	4:37	5 minutes		
4:42 pm	360#/s	4:42	10 minutes		
4:47 pm	360#/s	4:47	15 minutes		

### **MIT Passed**

83°F – Sunny – 5 -10 mph from SW Passed MIT test. Shut down operations @ 5:00 pm

Total Rig Hours: 9hrs x \$260.00	=	\$2,340.00
Daily Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/man	=	\$270.00
Fuel Surcharge: 10%	=	\$249.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Water Truck: 2 hrs x \$75.00	=	\$150.00
Pipe Dope	=	\$25.00
D 1 41/9 4D 4 / 11		

Redress 4 ½" AD-1 (new rubber, shewing and labor) = <u>\$200.00</u> Total Costs = \$3,704.50

Consulting: \$1500/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$60.00 \$810.00

Total Cost = \$4,514.50

Wednesday September 28, 2022

Tuesday

**September 27, 2022** 

 $56^{\circ}F$  – Sunny – Slight wind @ 5-10 mph from S Began operations @ 8:00 am. Circulating hole with fresh water and corrosion inhibitor. Set  $4\frac{1}{2}$ " x  $2\frac{3}{8}$ " AD-1 with 12,000#/s over string weight. Test MIT and lost a few pounds. Pulled 22,000#/s over string weight. Ran MIT test for State Inspector Gary Klotz

<b>Time</b>	<b>Pressure</b>	<b>Elapsed Time</b>
9:56 am	378#/s	0
10:01 am	375#/s	5 min
10:06 am	375#/s	10 min

10:11 am 375#/s 15 min

Passed MIT @ 10:11 am. Passed by State of MT Inspector Gary Klotz. Rigged down Liquid Gold Well Service. Moved rig to yard. Shut down operations @ 11:00 am

Total Rig Hours: 3 hrs x \$260.00	=	\$780.00
Daily Pickup: 2 hrs x \$60.00	=	\$120.00
<b>Rig Travel: 3 ½ hrs x \$45.00/man</b>	=	\$785.00
Fuel Surcharge: 10%	=	\$158.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Water Truck: 2 hrs x \$75.00	=	<u>\$150.00</u>
<b>Total Costs</b>	=	\$393.00

Consulting: \$1500/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$\frac{\$60.00}{\$810.00}

Total Costs = \$3,203.00

Total Workover Costs = \$66,885.00

# **CHECK SHEET**

Date:	4/21/2008			API	Number:	073-218	30
Company:	AltaMent Oil & Gas	Inc. Mount	ain View	Energy Inc.			
Well Name:	Jody Field 34-1						
County:	Pondera						
Field:	Wildcat Pondera /	oneman Coul	ec				
Surf. Location:	330FSL 2310F	WL SE	SW Lo	ot: Sec:	34 Twp:	29 N Rng:	6W
Permit I	Number: 26562			Drilling Fe	e:		
Intentio	n to Drill: 4/21/2008	8		Expiration Da	te: 10/21/	2008	
Mineral	Ownership:	✓ Private	☐ State	☐ Federal	☐ Indian		
Well Ty	/pe: Vertical			☐ Multiple L	aterals		
Propose	ed Depth/Formation:	MD: 3450	TVD:		Sun Riv	ver Dolomite	
Drilling	Unit Acres	Descript	ion:				
Sample	s Required: 🗆			Received	:		
		COMPLET	TION INFOR	MATION			
Comple	tion Date: MAY (	2008	TD:	3543	PBTD:	NA	
Comple	AILL	. (	IP / Forma	0			
				MAG	Hison		
Geologi	cal Well Report:		Mud L	og:			
Sundry	Notices: Chg. of Op						
	Intent-addle	Madison 6	-6-11				
				_			
	al -						
Subsec	uent Report of Aband	onment: Re	ceived		Approved:		
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Miscella	aneous:						
						Lagrand Lagrand	

# **CHANGE OF OPERATOR RECORD**

JODY FIELD 34-1 29N, 6W, Sec. 34: SESW API #073-21830

TO: Mountain View Energy, Inc. FROM: Altamont Oil & Gas, Inc. DATE: August 17, 2010

Form No. 4 R 4-85

LOCATE WELL CORRECTLY 34

FEB - 5 2009

BOARD OF OIL AND GAS CONSERVATION MONTANA BOARD OF O'ARM 36.22.1013
OF THE STATE OF MONTANA
BILLINGS OR SHELBY

# COMPLETION REPORT

									#21. 1
	ALTAMONT C								ll No#34-1`
Address_P	O BOX 488	- CUT BAI	NK MT	59427	F	ield (or A	rea)WID	LCAT	10 at 2
The well is	located_330	ft. from	n (S) line	and 231	0 ft.	from (W)	line of Sec.	34	
Sec34	; T. 29N	_; R6W_	; Cou	ntyPO	NDERA	-		; Elevation_	4071 GL (D.F., R.B. or G.L.)
Commence	d drilling_A	APRIL 30,	2008	, X	9; Co	ompleted	MAY 6,	2008	, 19
Write the A	PI# or the w	ell name o	of anothe	r well on	this lea	se if one	exists	1	
The info	ormation give on of the well	n herewith I at the ab	n is a com ove date.	plete and	correct	record of	the well. Th	esummaryo	n this page is for
	as OIL W	ELL			Signe	d M	delal		
	(oil well, gas	well, dry noie)			m:	DDEGTE	EK M. MONT ENT & CEC		
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					Date	DECEME	BER 31, 20	08	
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	(c	lenote oil	by O, gas	by G, wa	ter by V	V; state fo	rmation if	known)	
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From	to				_ Fron		to		
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Size	Weight	Gdo	Thread	Casir	ng Set	From	То	Sack of Cement	Cut and Pulled from
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4-1/2"	10.5#/ft	J55	ST&C	3539.7	7	674.94	3535.71	100 Sacks	Class G Ceme
							-	381	
				TUBIN	G REC	ORD		<u> </u>	
	Size Tubing	Wei Per		Grade	Thi	ead	Amount	Perforations	
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			0	COMPLE	TION R	ECORD	to 35	40' 3543	
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Cable tools	s were used	from	d back to		T.D	· Open he	ole from	t	.0
Total dept	3543	it.; Plugget	Dack to			., - [			
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3442' -	3446' 3-	1/8" HSD	- 17 SI	ots				1 1	
177						(I)	P&A show plu	gs above)	7545
				INITIAL	PRODU	CTION			
Well is pro	ducing from	MAG	dison		(]	oool) form	nation.		
0 1 6	ested 2 to	3 Derce	nt oil o	ut .	ours _				
I.P	ban	icis or on	P-01			(pumping	or flowing)		
	_Mcf of gas per_	h	ours.				Q/	W C	
			barrels	of water per		hours, or_	%	m.c.	

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JAN -7 2009

MONTANA BOARD OF OIL & GAS CONS. BILLINGS

# Electric Log Formation Tops

Cretaceous	<u>Depth</u>	<u>Datum</u>
Calarada		
Colorado Two Medicine		
Blackleaf	1780	+2296
Blackleaf Bentonite Marker	1820	+2256
Blackleaf Sandstone	1826	+2250
Base Fish Scales		
1 <sup>st</sup> Bow Island	1878	+2198
2 <sup>nd</sup> Bow Island	2030	+2046
3 <sup>rd</sup> Bow Island	2132	+1944
4 <sup>th</sup> Bow Island "A"	2376	+1700
4 <sup>th</sup> Bow Island "B"	2423	+1653
Dakota	2544	+1532
Kootenai	2586	+1490
Sunburst	3081	+995
<u>Jurassic</u>		
Morrison	3152	+924
Swift	3186	+890
Swift Shale	3274	+802
Rierdon(Ellis Shale)	3327	+749
Sawtooth	3404	+672
Sawtoodi		
Mississippian		
<u>1</u> 111331331 <u>p</u> ptan		
Madison(Sun River Dolomite)	3428	+648
,		
Total Depth:	3543	+533
Total Deptil.	5515	

FORM NO. 22 R7/99	.307								
MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE, BILLINGS, MONTANA 59102						Lease Type (Private/State/Federal): PRIVATE			
2555 51. 30	-	Well Numb	er:						
Т	[vert	ation for Permit	D	1		34-1			APR 1 4 2008
1	Tx dr	Deepen	Re-enter	7 _	<u> </u>	Unit Agree	ment Nam		
		Gas L	Other			Field Name	or Wildca	t: & GA	TANA BOARD OF C
	MONT OIL & G	AS, INC				WILDCAT			DIELING
	30X 488				ĺ	Objective F		,	
City CUT BANK			IP 59427			Section, To			& MADISON
Telephone Numl	ber (406) 873	9000				SECTION			
,		arter section and fo	otage measure	ements	s)	County:		,	
	34-T29N-R6W	1							
(330' FSL x	2310' FWL)								
						PONDERA			
(if directionally drilled, show	both surface and bottom ho	ole locations above)							
Proposed total d	epth F	ormation at total	depth	Eleva	ation	(indicate G	L or KB)		
3,450'	M	MADISON/SUN R	TVED		7. (	071' GL			
		acing unit API		other v			(if any)	Anticin	pated spud date
Cizo di la docum	and or an initial graph	aomy ame	idilibor or and	011101 1	WOII C	on and load	o (ii aiiy)	Antioip	acca spaa date
40 ACRES (S	ESW)								
Hole size	Casing size	Weight/foot	Grade (API)	1	Depth		Sacks of C	ement	Type of Cement
	7"				Верин				
8-3/4" 6-1/4"	,	17#/ft	J55			650'	245 sx		Class G
0-1/4	4-1/2"	9.5#/ft	J55		3	,450'	50' 100 sx		Class G
						A			
Describe Proposed Operations:  Describe or attach labeled diagram of blowout preventer equipment. Indicate if air drilled or describe mud program.  Altamont Oil & Gas, Inc proposes to drill this well to test for oil and or gas in the Bow Island, Sunburst & Madison formations. No DST's or cores are planned. Surface casin will be cemented from surface to approximately 650' ensuring good returns to surface. The well will be drilled with air and drilling mud from casing point to TD. Open hole logs will be run from surface to TD. Production zones will be perforated & tested. Blowout equipment will be as indicated on the attached exhibit and will be tested at regular intervals.									
BOARD USE OF	NLY						1/	1	7
Approved (date)  APR 2 1 2008 Permit Fee									
TitleTITLE	DINGFECTOR	Permit Expires ————————————————————————————————————	562		Pre	esident 8	& CEO		
	THIS PERMIT IS SUBJECT TO THE CONDITIONS OF APPROVAL STATED ON THE BACK  API Number 25- 073 - 21830  Date 4/9/2008								
		/							
Samples Required:	NONE		FROM_						
Core chips to addr	ess below, full cores	to USGS, Core Labor Montana Bos	atory, Arvada, Co ard of Oil and Ga				pe washed,	aried and	delivered prepaid to:
2525 St. Johns Avenue Billings, MT 59102									

SUPPLEMENTAL	INFORMATION

Note: Additional information or attachments may be required by Rule or by special request.

- X1. Attach a survey plat certified by a registered surveyor. The survey plat must show the location of the well with reference to the nearest lines of an established public survey.
- X 2. Attach an 8½ x 11" photocopy of that portion of a topographic map showing the well location, the access route from county or other established roads, residences, and water wells within a½ mile radius of the well.
- X3. Attach a sketch of the well site showing the dimensions and orientation of the site, the size and location of pits, topsoil stockpile, and the estimated cut /fill at the corners and centerstake. (Note: the diagram need not be done by an engineer or surveyor.) Attach a sketch of a top view and two side views of the reserve pit(s), if utilized. The reserve pit sketch must show the length, width, depth, cut and fill, amount of freeboard, area of topsoil stockpile, and the height and width of berms.
  - 4. Describe the type and amount of material or liner, if any, to be used to seal the reserve pit. If a synthetic liner is used, indicate the liner thickness (mils), bursting strength, tensile strength, tear strength, puncture resistance, hydrostatic resistance, or attach the manufacturer's specifications. N/A
  - 5. Describe the proposed plan for the treatment and/or disposal of reserve pit fluids and solids after the well is drilled. If the operator intends to dispose of or treat the reserve pit contents off-site, specify the location and the method of waste treatment and disposal. (Note: The operator must comply with all applicable federal, state, county, and local laws and regulations with regard to the handling, transportation, treatment, and disposal of solid wastes.) N/A
- 6. Does construction of the access road or location, or some other aspect of the drilling operation require additional federal, state, or local permits or authorizations? If yes, indicate the type of permit or authorization required:

X	No additional permits needed
	Stream crossing permit (apply through county conservation district)
	Air quality permit (apply through Montana Department of Environmental Quality)
	Water discharge permit (apply through Montana Department of Environmental Quality)
	Water use permit (apply through Montana Department of Natural Resources and Conservation)
	Solid waste disposal permit (apply through Montana Department of Environmental Quality)
	State lands drilling authorization (apply through Montana Department of Natural Resources and Conservation)
	Federal drilling permit (specify agency)
	Other federal, state, county, or local permit or authorization: (specify type)
OTICE	ES:

### NO

- 1. Date and time of spudding must be reported to the Board verbally or in writing within 72 hours after the commencement of drilling operations.
- 2. The operator must give notice of drilling operations to the surface owner as required by Section 82-10-503, MCA, before the commencement of any surface activity.

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CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

WARNING: Failure to comply with conditions of approval may void this permit.

# WELL LOCATION

APR 1 4 2008

FIELD #34-1
SE1/4SW1/4 SECTION 34, T29N, R6W, P.M.M.
PONDERA COUNTY, MONTANA 330' FSL X 2310' FWL

MONTANA BOARD OF OIL & GAS OONS. BILLINGS

ELEVATION BEFORE GRADING: 4071'

	_ 4			
CALE 1'=1000'	NW1/4SW1/4	3 NE1/4SV1/4	<b>4</b>	NE1/4SE1/4
У Л	SW1/4NW1/4	SE1/4NW1/4	SW1/4NE1/4	SE1/4NE1/4
	NW1/4NW1/4	NE1/4NW1/4	NW1/4NE1/4	NE1/4NE1/4

ELEVATION BEFORE GRADING: 4071' BASIS - NAVD 29

GEOGRAPHIC COORDINATES: 48°13'21.9' N 112°22'16.1' W (NAD 83 BASIS)

BASE POSITION FOR GEOGRAPHIC COORDINATES: 48\*12'38.97587' N 112\*22'44.76679' W (NAD 83 BASIS) (NGS CONTROL POINT CONE, THIRD ORDER)

LAND USE: CULTIVATION (CRP)

NO ATTEMPT HAS BEEN MADE BY THE SURVEYOR TO LOCATE UNDERGROUND STRUCTURES OR BURIED UTILITIES, AND APPROPRIATE AGENCIES AND SURFACE LANDOWNERS MUST BE CONTACTED FOR FIELD LOCATION OF ANY UNDERGROUND STRUCTURES OR BURIED UTILITIES

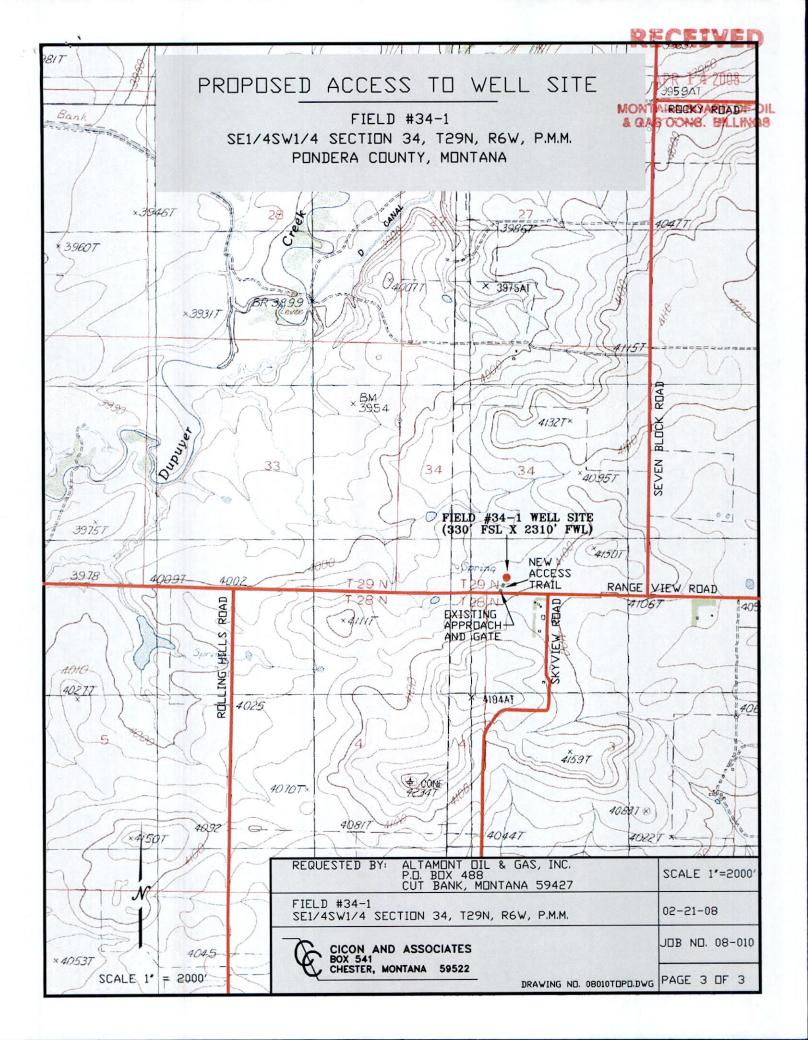
BEFORE ANY CONSTRUCTION COMMENCES. CALL 1-800-424-5555 BEFORE ANY CONSTRUCTION COMMENCES.

NOTE: SUBDIVISION LINES AND GOVERNMENT LOT BOUNDARIES ARE SHOWN FOR DEPICTIVE PURPOSES ONLY AND SHOULD NOT BE USED FOR SCALING OR LOCATION PURPOSES.

ON THE BASIS OF MY KNOWLEDGE, INFORMATION AND BELIEF, I CERTIFY THAT AS A RESULT OF A SURVEY MADE ON THE GROUND TO THE NORMAL STANDARD OF CARE OF PROFESSIONAL LAND SURVEYORS PRACTICING IN THE STATE OF MONTANA, I FIND THE LOCATION OF THE FIELD #34-1 AS SHOWN ON THE SUBJOINED DRAWING.

> 04039 LS JOHN M. CICON

REQUESTED BY: ALTAMONT DIL & GAS, INC. P.D. BOX 488 CUT BANK, MONTANA 59427	SCALE 1'=1000'
FIELD #34-1 SE1/4SW1/4 SECTION 34, T29N, R6W, P.M.M.	02-21-08
CICON AND ASSOCIATES	JDB ND. 08-010
CHESTER, MONTANA 59522  DRAVING NO. 08010ALTASIG.DW	SHEET 1 DF 3



# RIG PAD SITE

RECEIVED

FIELD #34-1 SE1/4SW1/4 SECTION 34, T29N, R6W, P.M.M. PONDERA COUNTY, MONTANA

APR 1 4 2008

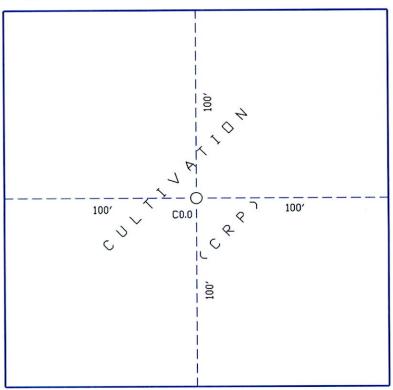
MONTAHA BOARD OF OIL & GAS OONS. BILLINGS

F 3.3'

C 3.7'

F 2.0'

C 4.7'



GENERAL CUTS AND FILLS OF PROPOSED RIG PAD

LAND USE: CULTIVATION (CRP)

ELEVATION OF LOCATION BEFORE GRADING: 4071' BASIS OF ELEVATIONS: NAVD 29

NOTE:

CUTS AND FILLS NOTED ARE FOR PURPOSES OF DESCRIBING THE GENERAL TOPOGRAPHY OF THE PROPOSED RIG PAD AND ARE NOT INTENDED FOR CALCULATION OF DIRTWORK QUANTITIES OR OTHER CALCULATIONS.

SCALE 1' = 50'

REQUESTED BY: ALTAMONT DIL & GAS, INC. P.D. BOX 488 CUT BANK, MONTANA 59427	SCALE 1'=50'
FIELD #34-1 SE1/4SW1/4 SECTION 34, T29N, R6W, P.M.M.	02-21-08
CICON AND ASSOCIATES	JOB NO. 08-010
CHESTER, MONTANA 59522	SHEET 2 DF 3

# RECEIVED

APR 1 4 2008

MONTANA BOARD OF OIL

& GAS OONS. BILLINGS

LOCATION LAYOUT

Gasco Drilling LLC

Fax (406) 434-3863

Phone

TOOL PUSHER TRAILER GENERATOR ROOM 2000 GAL FUEL TANK 1050 X 350 160 BBL Air Compressor Mud WATER TANK Pump INGERSOLL RAND **RD 10** DRILL RIG DOG Suction HOUSE 10' Pit Settling Pit WET PIT <--8'---> 12FT X 12 FT Trench 60 ft ---CELLAR RAMP- > DRILL PIPE WALKINEER TRAILOR ARM Drillpipe racks Casing Racks V

12 FT X 12 FT 6 FT DEEP

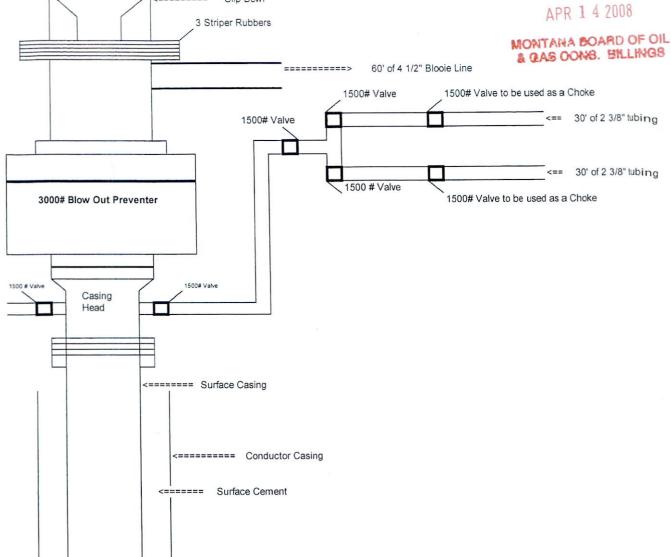
DIMENSIONS OF LOCATION: 200 X 200

SETTLING PIT IS 6' WIDE BY 45' LONG . SUCTION PIT 8' WIDE BY 10' LONG

P.O. Box 963

Shelby, Mt 59474

# RECEIVED



<====== Slip Bowl

**BOP STACK** 

...

RECEIVED

MAY 2 8 2004

ALTAMONT OIL & GAS, INC

APR 1 4 2008

REGAN OFFSHORE INTERNATIONAL, INC.

Torrance, College GAS OONS. BILLINGS

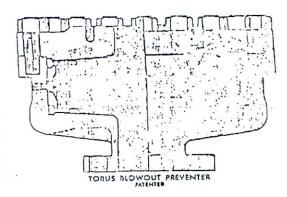
### REGAN BLOWGUT PREVENTERS

The Regan Torus Blowout Preventer is used primurily on production and workover rigs for well control up to 2000 PSI working pressure

### DISIGN FLATURIS

- The Thrus Preventer is designed for mininum height to inciliate its use with production and workover rigs.
- b The rubber packer will conform to any object in the well hore. Scaling ability is not affected by minor damage to the inner bore. The packer will Seal on open hole at full working pressure.

The dual packer design increases the reliability of the preventer since the outer rubber is never exposed to the well bore. Under ordinary service, the outer packer is rurely replaced.



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Kemina)	Test	DIMENSIONS (In.)				[rf	D/RK		(i) better Canta hater electrical inf win mith gring. 2000 o. 1.3
	Pratiure (611)	Outside	Thru	Avighi	Helpht (10.1	113/3**	Cinne	Dullet 2146	and APS-64 George, (ASIS) can be been delth as mindly Sur, (CO P P). Hearth 1 hange, 1 has Dange accounting
•	12:20 L000	27	34:	112	1360	han, i hea, i	- 11	2° LF.	being bulett biperate then
1	) to0	314	3.	114/	3430	Non. 1	13	15.0%	

# **B.O.P. SPECIFICATIONS**

FORM NO. 2 R 10/09

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1306, 1309, and 1417

Submit In Quadruplicate To:

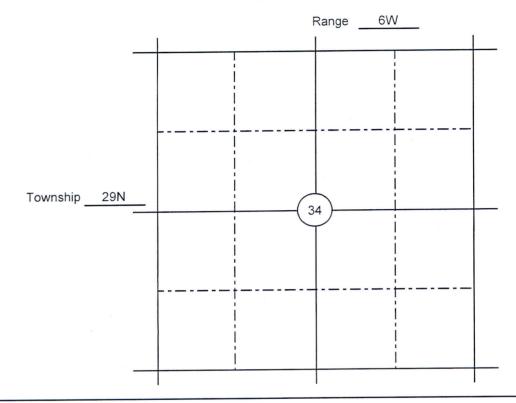
# MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS MONTANA 59102

SUNDRY NOTICES AND REPORT OF WELLS  Operator MOUNTAIN VIEW ENERGY, INC Address PO BOX 200  City CUT BANK State MT Zip Code 59427 Telephone 406-873-2235 Fax 406-873-2835  Location of well (1/4-1/4 section and footage measurements): SSESSW-SECTION 34-T28N-R6W (330° FSL - 2310° FWL)  API Number:  25 1 073   21830	BILLINGS, MONTANA 59102									
Address PO BOX 200  City CUT BANK State MT Zip Code 59427 Trelephone 406-873-2235 Fax 406-873-2835 Location of well (1/4-1/4 section and footage measurements): SESESIA-SECTION 34-T29N-R6W (330*FSL - 2310*FWL)  API Number:  API Number:  Well Type (oil, gas, injection, other):  Oil.  Dits geography well Indicate below with an X the nature of this notice, report, or other data:  Notice of Intention to Change Plans Notice of Intention to Rum Mechanical Integrity Test Notice of Intention to Abandon Well Notice of Intention to Abandon Well Notice of Intention to Abandon Well Notice of Intention to Change Well Status Supplemental Well History Other (specify) CONVERT TO INJECTION WELL  Paper Value  BOARD USE ONLY Approved  AUG 11 2011 Date Original Signed By George Hudek, UIC Director  Type (Private/State/Federal/Tribal/Allotted): Pype (Private/S	SUNDRY NOTICES AND REPORT OF WELLS									
Address PO BOX 200  City CUT BANK State MT Zip Code 59427 Telephone 406-873-2235 Fax 406-873-2835 Location of well (1/4-1/4 section and footage measurements):  SESSEM-SECTION 34-T28N-R6W (300 FSL - 2310 FWL)  Well Type (oil, gas, injection, other):  OIL  API Number:  25	Operator MOUNTAIN VIEW EN	ERGY, INC								
Telephone 406-873-2235  Telephone 406-873-2235  Telephone 406-873-2235  Fax 406-873-2835  Location of well (1/4-1/4 section and footage measurements):  SESESW-SECTION 34-T29N-R6W (330' FSL - 2310' FWL)  Well Type (oil, gas, injection, other):  Township, Range, and Section:  SECTION 34-T29N-R6W  County: PONDERA  Indicate below with an X the nature of this notice, report, or other data:  Notice of Intention to Change Plans Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Change Well Status Subsequent Report of Production Waste Disposal Notice of Intention to Change Well Status Supplemental Well History  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed Operations or the completion date for completed operations.  SEE  STIPULATIONS  ON BACK  The undersigned Report of Complete Waste the Information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  Patie M. Montalban, President & CEO  Print Name and Title  County:  PonDera  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation	Address PO BOX 200									
Telephone 406-873-2235 Fax 406-873-2835  Location of well (1/4-1/4) section and footage measurements):  SESEW-SECTION 34-729N-R6W  (300 FSL - 2310 FWL)  API Number:  25	City CUT BANK State I	MT Zip Code 59427								
SESESW-SECTION 34-T29N-R6W  (330 FSL - 2310 FWL)  API Number:  Well Type (oil, gas, injection, other):  Distance County  Well  Notice of Intention to Change Plans Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Change Well Status Subsequent Report of Pulled or Altered Casing Notice of Intention to Change Well Status Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)  Describe planned or completed work in detail. Atlach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  BOARD USE ONLY  Approved  AUG 1 2011  Date  Original Signed By George Hudak, UIC Director	Telephone 406-873-2235	Fax 406-873-2835								
API Number:  API Number:  API Number:  Well Type (oil, gas, injection, other):  Oil  County: PONDERA  Indicate below with an X the nature of this notice, report, or other data:  Notice of Intention to Change Plans Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Stimulation or Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforate or to Cement Notice of Intention to Stimulation or Crementing Notice of Intention to Abandon Well Notice of Intention to Prior After Casing Notice of Intention to Prior After Casing Notice of Intention to Change Well Status Subsequent Report of Perforation or Cementing Notice of Intention to Change Well Status Subsequent Report of Production Waste Disposal Notice of Intention to Change Well Status Subsequent Report of Production Waste Disposal Supplemental Well History Other (specify) CONVERT TO INJECTION WELL  Describe Proposed or Completed Operations:  Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  BOARD USE ONLY  Approved AUG 1 2011 Date Original Signed By George Hudak, UIC Director	SESESW-SECTION 34-T29N-R6W	d footage measurements):								
API Number:    Verification   Verifi			LONEMAN COULEE							
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Notice of Intention to Change Plans  Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Change Well Status Subsequent Report of Drilling Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)  Describe Proposed or Completed Operations: Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  SEE STIPULATIONS ON BACK  The undersigned Fereby Certifies that the information contained on this application is frue and correct.  6/21/20  Date  Original Signed By George Hudak, UIC Director  Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Production Waste Disposal Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Production Waste Disposal Subsequent Report of Pulled or Production Waste Disposal Subsequent Report of Pulled or Production Waste D		OIL								
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BOARD USE ONLY  Approved AUG 1 1 2011 Date Original Signed By George Hudak, UIC Director  Date Original Signed By George Hudak, UIC Director  SEE STIPULATIONS ON BACK  The undersigned hereby certifies that the information contained on this application is true and correct.  6/21/2011 Date Signed (Agent) Patrick M. Montalban, President & CEO Print Name and Title	Notice of Intention to Run Mechanic Notice of Intention to Stimulate or to Notice of Intention to Perforate or to Notice of Intention to Abandon Well Notice of Intention to Pull or Alter Ca Notice of Intention to Change Well S Supplemental Well History	cal Integrity Test  Chemically Treat  Cement  asing  Status  ECTION WELL	Subsequent Report of Stimulation or Treatment Subsequent Report of Perforation or Cementing Subsequent Report of Well Abandonment Subsequent Report of Pulled or Altered Casing Subsequent Report of Drilling Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)							
BOARD USE ONLY  Approved AUG 1 1 2011  Date  Original Signed By  George Hudak, UIC Director  The undersigned hereby certifies that the information contained on this application is true and correct.  6/21/2014  Date  Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Title										
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BOARD USE ONLY  Approved AUG 1 1 2011  Date			ON BACK							
BOARD USE ONLY  Approved AUG 1 1 2011  Date			The undersigned berefy certifies that the information contained on							
Approved AUG 1 1 2011  Date Date Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Title  (406) 873, 2235	BOADDIISE	ONLY								
Date Signed (Agent)  Original Signed By Patrick M. Montalban, President & CEO  Print Name and Title  (406) 873, 2335	ALIO 1 1 2011	JIL I	6/21/2011 Sald M.							
George Hudak, UIC Director  Print Name and Title	/ tppiovou	_	Date Signed (Agent)							
(406) 873 2235										
Tidino	Name	Title								

# SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



### **BOARD USE ONLY**

# CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

- · Injection well bond required before injecting.
- · MIT required before injecting.
- · Set packer 3328 ft. or deeper
- · Injection pressure limited to 1,019 psig.
- before injecting. (sent to EPA 7-28-11).

Failure to comply with the conditions of approval may void this permit.

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1305, 1309, and 1417

# Submit In Quadruplicate To:

# MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS, MONTANA 59102

JUN - 6 2011

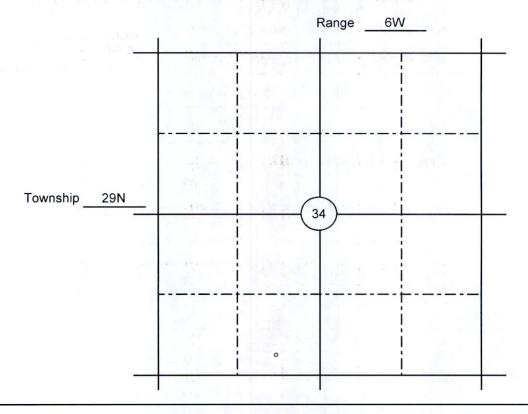
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SUNDRY NOTICES AN	ND REPORT OF WELLS & GAS CONS. BILLINGS
Operator MOUNTAIN VIEW ENERGY, INC  Address PO BOX 200  City CUT BANK State MT Zip Code 59427  Telephone 406-873-2235 Fax 406-873-2835  Location of well (1/4-1/4 section and footage measurements):  SESESW-SECTION 34-T29N-R6W (330' FSL - 2310' FWL)  API Number: Well Type (oil, gas, injection and section and section and section and footage measurements):  ONL  Well Type (oil, gas, injection and section  Lease Name: JODY FIELD  Type (Private/State/Federal/Tribal/Allotted): PRIVATE  Well Number: 34-1  Unit Agreement Name:  Field Name or Wildcat: LONEMAN COULEE  Township, Range, and Section:	
Indicate below with an X the nature of this notice, report, or other  Notice of Intention to Change Plans  Notice of Intention to Run Mechanical Integrity Test  Notice of Intention to Stimulate or to Chemically Treat  Notice of Intention to Perforate or to Cement  Notice of Intention to Abandon Well  Notice of Intention to Pull or Alter Casing  Notice of Intention to Change Well Status  Supplemental Well History  Other (specify)	Subsequent Report of Mechanical Integrity Test Subsequent Report of Stimulation or Treatment Subsequent Report of Perforation or Cementing Subsequent Report of Well Abandonment Subsequent Report of Pulled or Altered Casing Subsequent Report of Drilling Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)
Describe Proposed or  Describe planned or completed work in detail. Attach maps, well-bore or necessary. Indicate the intended starting date for proposed operations of Move in and rig up. Dig drill hole to swab test. Perforate from 3448'-345 3452'-3460' 3460'-3466' 3470'-3480' 3480'-3490' 3490'-3496 Rig up Liquid Gold Well Service and acidize well with 1,000 gallons of 28' Run 4-1/2" packer and tubing in hole. Set packer at 3400'. Test packer	or the completion date for completed operations.  2' and swab test for 4 hours. Additional perforations:  % HCI. to 1000 pounds. Hold for 1/2 hour.
Approved JUN 0 6 2011 Date CHIEF FIELD INSPECTOR Name Title	The undersigned hereby certifies that the information contained on this application is true and correct:  5/23/2011  Date Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Title  Telephone: (406) 873-2235

# SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



### **BOARD USE ONLY**

### CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.



# SPUD INFORMATION

MAY - 5 2008

MONTANA BOARD OF OIL

WELL NAME: Jody Fie	ld 34-1	E GAS COME. BILLINGS
API#: 25-673-21		2
LOCATION: S 34 T20 (Twp-	9 N 6W Rge-Sec: 1/4 1/4)	SE SW
SPUD TIME:	n	Actual 🔀
DRILLING COMPANY:E	osco	
CALLER'S NAME: Patru		
COMPANY NAME: Olton	nont Oil	+ Gas, Tue
OTHER:		
	<u> </u>	

# Montana Board of Oil and Gas Conservation Environmental Assessment

Operator: Altamont Oil & Gas, Inc.

Well Name/Number: Jody Field 34-1	
Location: SE SW Section 34 T29N R6W	
County: Pondera MT; Field (or Wildcat) Wildcat	
Air Quality	
(possible concerns)	
Long drilling time: No, 4 to 5 days drilling time.	
Unusually deep drilling (high horsepower rig): No, 3450' TD	
Possible H2S gas production: Yes	
In/near Class I air quality area: <u>No</u>	
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit requ	<u>ired</u>
<u>under 75-2-211.</u>	
Mitigation:	
X Air quality permit (AQB review)	
_ Gas plants/pipelines available for sour gas	
Special equipment/procedures requirements Other:	
Comments: No special concerns – using small rig to drill to 3450' TD.	
Comments. No special concerns – using smalling to unit to 5450 TD.	
Water Quality	
(possible concerns)	
Salt/oil based mud: No, freshwater, freshwater mud system, air, air mist.	
High water table: No	
Surface drainage leads to live water: No, closest drainages are some unnamed	
ephemeral tributary drainages to Dupuyer Creek, about 3/8 of a mile to the west and	1/2
mile to the northwest from this location.	
Water well contamination: No, closest water wells are about 3/4 of a mile to the nor	
and south of this location and these wells are 207' and 90' in depth. Surface casing	WIII
be drilled with air and/or freshwater mud to 650' and steel surface casing set and cemented to surface from 650'. Small spring located on topographic map, about 1/8	ofa
mile to the northwest from this location.	or a
Porous/permeable soils: No, sandy bentonitic soils.	
Class I stream drainage: No	
Mitigation:	
Lined reserve pit	
X Adequate surface casing	
Berms/dykes, re-routed drainage	
Closed mud system	
Off-site disposal of solids/liquids (in approved facility)	
Other:	
Comments: 650' of surface casing will be set and cemented to surface adec	
to protect freshwater zones. Also, fresh water mud systems or air to be used for dri	iing
surface hole.	

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No, no stream crossings.
High erosion potential: No, small cut, up to 4.7' and small fill, up to 3.3', required.
Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If
productive unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, 200'X200' location size required.
Damage to improvements: No, surface use is cultivated field (CRP).
Conflict with existing land use/values: Slight
Mitigation
Avoid improvements (topographic tolerance)
Exception location requested
X Stockpile topsoil
Stream Crossing Permit (other agency review)
X Reclaim unused part of wellsite if productive
Special construction methods to enhance reclamation
Other
Comments: Access will be over existing county road, Barrett FLDS. A short road will
be constructed, about 300' into this location. Drill cuttings will be buried in the unlined
cuttings pit. Drilling fluids will be allowed to evaporate in the pits. No special concerns
Health Hazards/Noise
Health Hazards/Noise
(possible concerns)
Proximity to public facilities/residences: Closest residence buildings about 3/8 of a mile
to the east of this location.
Possibility of H2S: Yes
Size of rig/length of drilling time: Small drilling rig/short 4 to 5 days drilling time.
Mitigation:
X_Proper BOP equipment
Topographic sound barriers
H2S contingency and/or evacuation plan
Special equipment/procedures requirements
Other:
Comments: No concerns
Wildlife/recreation
(possible concerns)
Proximity to sensitive wildlife areas (DFWP identified): None identified.
Proximity to recreation sites: Lake Frances about 7.5 miles to the northeast.
Creation of new access to wildlife habitat: None identified.
Conflict with game range/refuge management: None identified.
Threatened or endangered Species: None identified.
Mitigation:
Avoidance (topographic tolerance/exception)
Other agency review (DFWP, federal agencies, DSL)
Screening/fencing of pits, drillsite
Other:
Comments: Private surface lands. No concerns

Historical/Cultural/Paleontological (possible concerns) Proximity to known sites: None identified, private surface. Mitigation avoidance (topographic tolerance, location exception) X other agency review (SHPO, DSL, federal agencies) Other: Comments: Private surface. No concerns. Social/Economic (possible concerns) \_\_ Substantial effect on tax base \_\_ Create demand for new governmental services Population increase or relocation Comments: No concerns. Remarks or Special Concerns for this site Well is a 3450' Madison Formation test. Summary: Evaluation of Impacts and Cumulative effects No, significant impacts expected, some short term impacts are expected, but should be able to mitigate these short term impacts. I conclude that the approval of the subject Notice of Intent to Drill (does/does not) constitute a major action of state government significantly affecting the quality of the human environment, and (does/does not) require the preparation of an environmental impact statement. Prepared by (BOGC): Steven Sasaki (title:) Chief Field Inspector Date: April 15, 2008 Other Persons Contacted: Montana Bureau of Mines and Geology, GWIC website (Name and Agency) Pondera County water wells (subject discussed) April 15, 2008 (date) If location was inspected before permit approval:

Inspection date:

nspector:		
Others present during inspection:		

BEFORE THE BOARD OF OIL AND GAS

CONSERVATION

CONSERVATION

INTENTION TO APPLY
FOR PERMIT TO DRILL

ALTAMONT OIL AND GAS WELL

ALTAMONT OIL & GAS. INC

1. PO Box 488
Cut Bank, Montana 59427

SE458W4 - Section 34-T29N-R6W

9. Jody Fields #34-1

SE458W4 - Section 34-T29N-R6W

Ponders County, Montana
3,500 Follos #100

Notice is hereby given that an application for permit for drill an oil and gas well at the surface location set and before the depth as stated will be filed with the ant of Rules 36.22.601 and 36.22.604. Administrative Rules of Montana, an interested party may depard of Oil and Gas Conservation. Pursumand an opportunity to be heard by the Montana Baprication. SUCH DEMAND FOR HEARING MUST SURFACTION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) AND GAS CONSERVATION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) ACTED UPON BY THE BOARD'S PETROLEUMEN. THEIR NOTICE, OR THE APPLICATION OF GINEER WITHOUT HEARING, A DEMAND MUST. THEIR OWNERSHIP INTEREST IN THE LANDS SERVED DATON SHERE OWNERSHIP INTEREST IN THE LANDS SERVED UPON THE APPLICATION WILL BE GINEER WITHOUT HEARING IS SOUGHT. (2) BE MAILED OR FAX THANDERS IN THE LANDS SERVED UPON THE APPLICANT BY COPY MAILED OF FAX THANSMITTED TO THE ADDRESS ERFORTH ABONE.

Montana Board of Oil and Gas Conservation 2535 St. Johns Avenue Billings MT 59102 Office: (406) 655-0040 Fax: (406) 655-6015

# AFFIDAVIT OF PUBLICATION STATE OF MONTANA,

County of Lewis & Clark,

() I V

APR - 9 2008

MONTAHA BOARD OF OIL & GAS CONS. BILLINGS

**Beverly Allison** 

Being duly sworn, deposes and says:

That she is the principal clerk of the Independent Record a newspaper of general circulation published daily in the City of Helena, in the County of Lewis & Clark, State of Montana, and has charge of the advertisement thereof:

That the Oil & Gas - Jody Fields #34-1

a true copy of which is hereto annexed, was published in said newspaper on the following dates: viz.: April 5, 2008

making in all\_\_\_\_\_publication(s)

weelly of alleson

day of April

Subscribed and sworn to before me this 5

Belmingan

NOTARY PUBLIC for the State of Montana Printed Name: Rose Marie Farr Residing at Helena, Montana My commission expires 8-15-2010

(NOTARIAL SEAL)

# Affidavit of Publication

RECEIVED

APR 1 4 2008

Montana Board of Oil & Gas Ooms. Billings

STATE OF MONTANA) County of Pondera) ss. John H Lee being duly sworn upon his oath says: That he is the Publisher of "The independent-Observer," a weekly newspaper of general circulation, published weekly at Conrad, in the County of Pondera, State of Montana. That the notice hereunto attached was published in the said "Independent-Observer" once each week for ... I. ve ... successive weeks. That the first publication of said notice was on the That the last publication of said notice was on the That the said notice was published in the regular and entire issue of every said "Independent-Observer" during the period and time of said publication, and in the newspaper proper, and not in a supplement. Title: Publisher Sworn to and subscribed before me this 10 day of April , 20.08 Nancy Zelenka Notary Public for the State of Montana, residing at Conrad, Montana. My commission expires

June 1, 2010

CONSERVATION OF THE STATE OF MONTANA In the Matter of the application of TINTENTION TO APPLY ) FOR PERMIT TO DRILL ALTAMONT OIL & GAS, INC. OIL AND GAS WELL for a Permit to Drill an oil and gas well.) 1. PO Box 488 Cut Bank, Montana 59427 2. Jody Fields #34-1 SE/4SW/4 - Section 34-T29N R6W (330' FSL x 2310' FWL) Pondera County, Montana 3. Total Proposed Depth: 3,450' Notice is hereby given that an application for permit to drill an oil and gas well at the surface tocation set forth above to the depth as stated will be filed with the Montana Board of Oil and Gas Conservation. Pursuant to Rules 36.22.601 and 36.22.604, Administrative Rules of Montana, an interested party may demand an epportunity to be heard by the Montana Board df Oil and Gas Conservation concerning the application. SUCH DEMAND FOR HEARING MUST BE RECEIVED BY THE MONTANA BOARD OF OIL AND GAS CONSERVATION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) DAYS AFTER THE DATE OF PUBLICATION OF THIS NOTICE, OR THE APPLICATION WILL BE ACTED UPON BY THE BOARD'S PETROLEUM ENGINEER WITHOUT HEARING. A DEMAND MUST: (1) SET FORTH THE NAME, AD-PRESS AND TELEPHONE NUMBER OF EACH INTERESTED PARTY, THEIR OWNERSHIP INTEREST IN THE LANDS SURROUNDING THE PROPOSED WELL. AND THE REASONS WHY A HEARING IS SOUGHT; (2) BE SERVED I IRONLTHE ARRESCANT BY CORY MALE FOR OR FAX TRANSMITTED TO THE ADDRESS SET FORTH ABOVE. Montana Board of Oil and Gas Conservation

BEFORE THE BOARD OF OIL AND GAS

LEGAL NOTICE

RECEIVED APR 1 1 2008

2535 St. Johns Avenue

Published April 10, 2008

Billings MT 59102 Office: (406) 656-0040 Fax: (406) 655-6015 05/05/2008 12:37 4064343963 GASCO DRILLING PAGE 01/01

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## LIQUID GOLD WELL SERVICE, INC.

Cement Work Order Phone 406-873-2966 Fax 406-873-2997

Rev. 4-07

#### RECEIVED

P.O. Box 757 Cut Bank, MT 59427

1 ax 400-07	3-2991		JUN - 9 2008		Cut Bank, IVIT 59427
				Invoi	ce #
Company	Altan	ont	MONTANA BOARD OF OIL & GAS CONS. BILLINGS	Date 5	1-08
Address				and a second	Twn. 29 N Rng. 66
City/State				County Pa	nocea
Lease		Well Jody Feile	ds 34-1	Field Wile	deat
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TD679 PB	BTD				
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Date

## LIQUID GOLD WELL SERVICE, INC.

Ceme	nt Work Order
Phone	406-873-2966
Fox	406 972 2007

Rev. 4-07

#### RECEIVED

Fax 406-87				- 100	P.O. Box 757 Cut Bank, MT 59427
		1	JUN - 9 2008	Invoice #	2048
0	Alfamon	_	MONTANA BOARD	OF OIL	
Company/	THATION	-	& GAS CONS. BILL		.29N Rng. 6W
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	Agent of Ov	vner or Contractor			
		1 11/11/11			

#### RECEIVED

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Original - Please pay from this Invoice - Due 30 days from above date.

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**TOTAL CHARGES** 

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Original - Please pay from this invoice - Due 30 days from above date.

ARM 36.22.307, 601, 605,



Submit In Quadruplicate To:

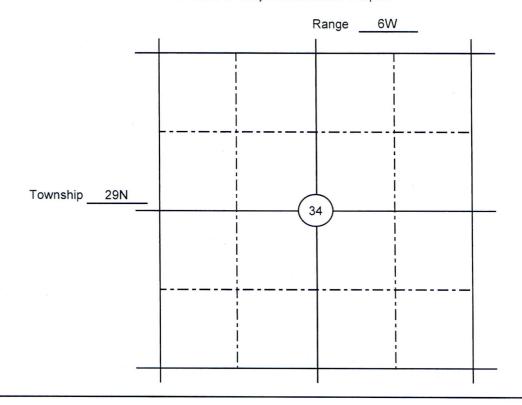
## MONTANA BOARD OF OIL AND GAS CONSERVATION

2535 ST. JOHNS AVENUE BILLINGS, MONTANA 59102  MONTANA BOARD OF OIL  AUG 1 7 2011  MONTANA BOARD OF OIL						
	AND REPORT OF WELLS					
Operator MOUNTAIN VIEW ENERGY, INC  Address PO BOX 200  City CUT BANK State MT Zip Code 5942  Telephone 406-873-2235 Fax 406-873-283  Location of well (1/4-1/4 section and footage measurements): SESESW-SECTION 34-T29N-R6W (330' FSL - 2310' FWL)  API Number: Well Type (oil, gas, injection)  API Number: Well Type (indicated)  INJECTION	Lease Name: JODY FIELD  Type (Private/State/Federal/Tribal/Allotted): PRIVATE  Well Number: 34-1  Unit Agreement Name:  Field Name or Wildcat: LONEMAN COULEE  Township, Range, and Section: SECTION 34-T29N-R6W					
State County Well Indicate below with an X the nature of this notice, report, or ot	PONDERA					
Describe planned or completed work in detail. Attach maps, well-bot necessary. Indicate the intended starting date for proposed operation. Moved in and rigged up General Well Service Rig #12. Rigged up Co	ns or the completion date for completed operations.  Impetition Wireline Services and perforated 3448' - 3452'. Rigged down nepetition Wireline Services and perforated from 3490' - 3493', 3480' - 3490', *					
BOARD USE ONLY  ApprovedAUG 1 8 2011  Date  Original Signed By George Hudak, UIC Director	The undersigned hereby certifies that the information contained on this application is true and correct:  08/03/2011  Date Signed (Agent)  Joseph P. Montalban, Chief Operating Officer  Print Name and Title					
Name Title	Telephone: (406) 873-2235					

#### SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



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#### **CONDITIONS OF APPROVAL**

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

Submit In Quadruplicate To:

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1306, 1309, and 1417

## MONTANA BOARD OF OIL AND GAS CONSERVATION

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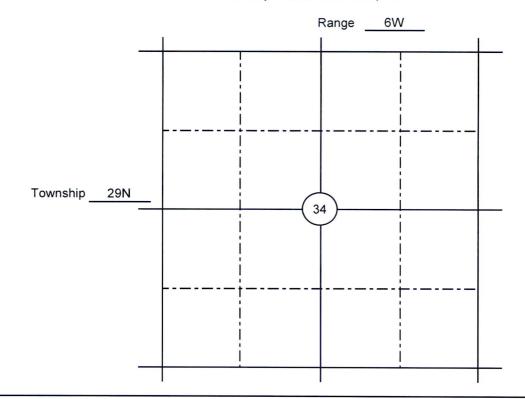
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S	UNDRY NOTICES AND	D REPORT OF WELLS
Operator MOUNTAIN VIEW ENER Address PO BOX 200  City CUT BANK State I  Telephone 406-873-2235  Location of well (1/4-1/4 section and SESESW-SECTION 34-T29N-R6W (330' FSL - 2310' FWL)	ERGY, INC  IT Zip Code 59427  Fax 406-873-2835	Lease Name: JODY FIELD  Type (Private/State/Federal/Tribal/Allotted): PRIVATE  Well Number: 34-1  Unit Agreement Name:  Field Name or Wildcat: LONEMAN COULEE
API Number:  25   073   21830  State County Well	Well Type (oil, gas, injection INJECTION	Township, Range, and Section: SECTION 34-T29N-R6W  County: PONDERA
	cal Integrity Test  Chemically Treat  Cement  Status  Describe Proposed or Cetail. Attach maps, well-bore con	Subsequent Report of Mechanical Integrity Test Subsequent Report of Stimulation or Treatment Subsequent Report of Perforation or Cementing Subsequent Report of Well Abandonment Subsequent Report of Pulled or Altered Casing Subsequent Report of Drilling Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)
Move in and rig up General Well Service Wireline Services. Swab test well. Rig 3466'. Rig down Competition Wireline Services. Swab test well. Rig 3466'. Rig down Competition Wireline Services. Approved AUG 1 7 2011  Date  Original Signal George Hudek, Ut	up Competition Wireline Services a Services and move off well.  E ONLY  ad By	The undersigned hereby certifies that the information contained on this application is true and correct:  08/03/2011  Date  Joseph P. Montalban, Chief Operating Officer  Print Name and Title
Name	Title	Telephone: (406) 873-2235

#### SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



BOARD USE ONLY	CONDITIONS OF APPROVAL
<b>BOARD USE ONLY</b>	CONDITIONS OF APPROVAL

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FORM NO. 2 R 10/09

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1306, 1309, and 1417

Submit In Quadruplicate To:

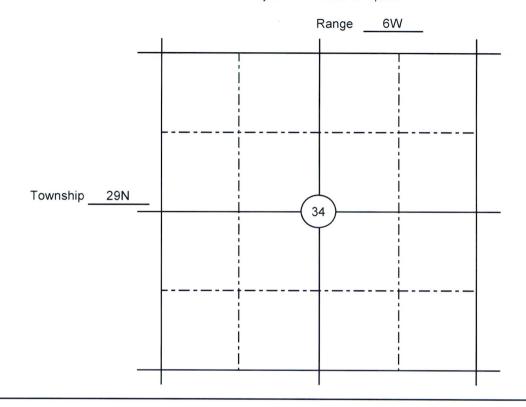
## MONTANA BOARD OF OIL AND GAS CONSERVATION

2535 ST. JOHNS AVENUE BILLINGS, MONTANA 59102  AUG 1 7 2011				
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Operator MOUNTAIN VIEW ENE			Lease Name: JODY FIELD	
Address PO BOX 200			Type (Private/State/Federal/Tribal/Allotted):	
City CUT BANK State N	AT Zip Code 59427		PRIVATE Well Number:	
Telephone 406-873-2235	Fax 406-873-2835		34-1	
Location of well (1/4-1/4 section and SESESW-SECTION 34-T29N-R6W (330' FSL - 2310' FWL)	footage measurements):		Unit Agreement Name:  Field Name or Wildcat: LONEMAN COULEE  Township, Range, and Section:	
API Number:	Well Type (oil, gas, injection	on, other):	SECTION 34-T29N-R6W	
25 073 21830 State County Well	OIL		County: PONDERA	
Indicate below with an X the nature	of this notice, report, or other	data:		
Notice of Intention to Change Plans  Notice of Intention to Run Mechanical Integrity Test  Notice of Intention to Stimulate or to Chemically Treat  Notice of Intention to Perforate or to Cement  Notice of Intention to Abandon Well  Notice of Intention to Pull or Alter Casing  Notice of Intention to Change Well Status  Supplemental Well History  Other (specify)		Subseque Subseque Subseque Subseque Subseque Subseque Subseque	lent Report of Mechanical Integrity Test lent Report of Stimulation or Treatment lent Report of Perforation or Cementing lent Report of Well Abandonment lent Report of Pulled or Altered Casing lent Report of Drilling Waste Disposal lent Report of Production Waste Disposal lent Report of Change in Well Status lent Report of Gas Analysis (ARM 36.22.1222)	
	detail. Attach maps, well-bore co	nfiguration dia	iagrams, analyses, or other information as	
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			rsigned hereby certifies that the information contained on	
Approved AUG 1 7 2011 Date Original Signed I	Ву	8/15/2	2011 Date Signed (Agent) Joseph P. Montalban, COO	
George Hudak, UIC E		Telephone	Print Name and Title ne: (406) 873-2235	
Name	Title	Telephone	le. (400) 073-2233	

#### SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



BOARD USE ONLY	CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

Submit In Quadruplicate To:

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1306, 1309, and 1417

MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS, MONTANA 59102

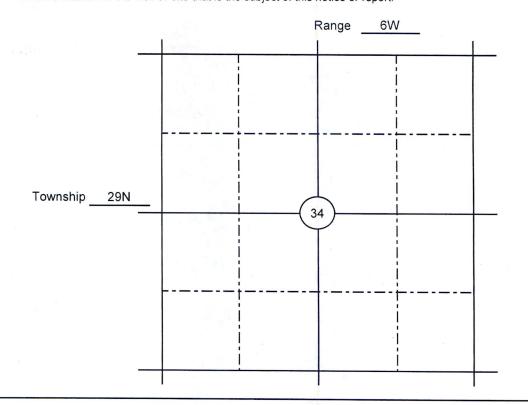
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S	UNDRY NOTICES AN	ID REPO	RT OF WELLS	& GAS CON	S. BIL
Operator MOUNTAIN VIEW ENE Address PO BOX 200  City CUT BANK State M Telephone 406-873-2235  Location of well (1/4-1/4 section and NENWSSY)-SECTION 34-T29N-R6W (2310' FSL - 990' FWL)  NWSW  API Number:  25   073   21838	MT Zip Code 59427 Fax 406-873-2835	on, other):	Lease Name: JODY FIELD  Type (Private/State/Feder: PRIVATE  Well Number: 34-2  Unit Agreement Name:  Field Name or Wildcat: LONEMAN COULEE  Township, Range, and Se SECTION 34-T29N-R6W  County:	al/Tribal/Allotted):	
<b>25</b> 073 21838 State County Well	INJECTION		PONDERA		
Notice of Intention to Change Plans Notice of Intention to Run Mechanic Notice of Intention to Stimulate or to Notice of Intention to Perforate or to Notice of Intention to Abandon Well Notice of Intention to Pull or Alter C Notice of Intention to Change Well S Supplemental Well History Other (specify)  Describe planned or completed work in necessary. Indicate the intended startir Well hooked up and commenced injection	cal Integrity Test c Chemically Treat c Cement d Sasing Status  Describe Proposed or detail. Attach maps, well-bore congular data for proposed operations of	Subseque Subseque Subseque Subseque Subseque Subseque CONVEF Completed onfiguration di or the complet	agrams, analyses, or other info	Treatment Cementing ment ed Casing Disposal aste Disposal ell Status (ARM 36.22.1222)  ormation as	
Approved SEP 0 6 2011 Date Original Signed By George Hudak, UIC Dis	<del></del>	this applic	Joseph P. Montalban, V. Print Name and	Signed (Agent) P. of Operations d Title	
Name	Title	Telephor	ne:(406) 8	873-2235	

#### SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request. Plot the location of the well or site that is the subject of this notice or report.



#### **BOARD USE ONLY**

#### **CONDITIONS OF APPROVAL**

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

## Attachment C Well Construction Conversion Information



#### **CONTENTS**

1.	Part I. Well Schematic Diagram (40 CFR § 144.52)	2
2.	Part II. Well Construction or Conversion Procedures (40 CFR §	
	144.52)	3

#### **FIGURES**

Figure 01. Well Jody Field 34-1 Well Schematic Figure 02. Well Jody Field 34-2 Well Schematic

#### **EXHIBITS**

- A. Well Records for Jody Field 34-1 and Jody Field 34-2
- B. Well Records for Jody Field 14-34 and Jody Field 4-1A
- C. WatchDog® Monitoring System Specifications

#### 1. PART I. WELL SCHEMATIC DIAGRAM (40 CFR § 144.52)

Montalban Oil & Gas Operations, Inc (Montalban) intends to convert two (2) existing Class II UIC wells and two (2) shut-in oil and gas wells to Class V UIC wells for injection of industrial wastewater to be received from Montana Renewables, a renewable fuels refinery located in Great Falls, Montana. This application involves a phased approach with initial conversion of the 2 class II wells and subsequent conversion of the 2 oil and gas wells at a later date to accommodate future wastewater volumes from the refinery.

The Class II UIC wells to be converted at this time are identified as follows:

Well Jody Field 34-1 Section 34-Township 29 North, Range 6 West Pondera County, Montana API No. 25-073-21830

Jody Field No. 34-2 Section 34-Township 29 North, Range 6 West Pondera County, Montana API No. 25-073-21838

The current well schematics for Wells Jody Field 34-1 and 34-2 are provided in **Figures 01 and 02** respectively and include identification of confining layers and underground sources of drinking water (USDWs), casing and cementing details, and injection intervals. The injection wells are completed in the Madison Sun River Dolomite, and no additional well design changes are proposed.

The shut-in oil and gas wells to be converted at a future date are detailed below.

Well Jody Field 4-1A Section 4-Township 28 North, Range 6 West Pondera County, Montana API No. 25-073-21842 Well Depth: 3,442

Well Jody Field No. 14-34 Section 34-Township 29 North, Range 6 West Pondera County, Montana API No. 25-073-21740 Well Depth: 3,415'

Current well records for Wells Jody Field 4-1A and Jody Field No. 14-34 are included in Exhibit B.

## 2. PART II. WELL CONSTRUCTION OR CONVERSION PROCEDURES (40 CFR § 144.52)

Well construction details for the existing Class II UIC Wells Jody Field 34-1 and 34-2 are provided below and included in the well completion reports provided in Exhibit A:

Well Jody Field 34-1

Depth to Top of Injection Formation: 3,428' Injection Formation: Madison/Sun River Dolomite

Injection Interval: 110'

Jody Field No. 34-2

Depth to Top of Injection Formation: 3,438' Injection Formation: Madison/Sun River Dolomite

Injection Interval: 81'

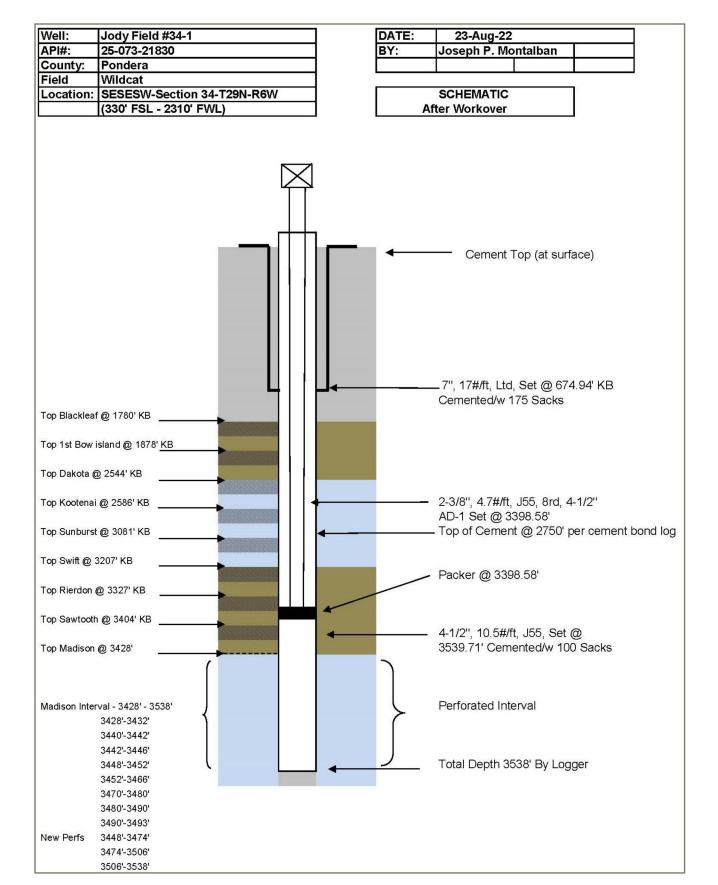
The Montana Board of Oil and Gas Conservation (BOGC) recently authorized workovers of the two Class II UIC wells, which included deepening the injection intervals and performing well stimulation (acidizing). Mechanical integrity tests conducted following workover operations indicated no loss of mechanical integrity. Well records including previously run logs and tests and a cement bond log for Well 34-1 is included in Exhibit A. The cement bond log indicates a good bond in Well 34-1 from a depth of 2,750 feet (beginning 500 feet above the confining Ellis Formation) to the top of the injection interval.

Prior to commencing operations, the wells will be equipped with the WatchDog® virtual well-site monitoring system, which will continuously track well parameters and immediately alert Montalban in the event of loss of pressure or well failure. Injection volumes and flow rates, pressure on the tubing, and pressure on the backside of the packer and tubing casing annulus will be monitored and real-time data will be remotely available 24/7. The pressure gauges are capable of monitoring pressures ranging from normal operating pressures up to the MAIP. Specifications for the WatchDog® system are included in Exhibit C. The tubing casing annulus will be filled with water treated with a corrosion inhibitor, and the valve will remain closed during normal operating conditions so that the pressure will be maintained at zero (0) psi.

A pressure actuated shut-off device (Murphy switch) will be located in the injection building and is set to shut-off flow from the injection pump when pressures reach within 200 to 300 psi of the Maximum Allowable Injection Pressure (MAIP) established for the wells. A "tap" will be placed at a conveniently accessible location on the discharge line of the pump that leads to the injection wells for collection of representative samples of the injected fluid. Further details regarding the injection site layout and location of monitoring devices is provided in Attachment D, Injection Operation and Monitoring Program.

#### **FIGURES**

Figure 01. Well Jody Field 34-1 Well Schematic Figure 02. Well Jody Field 34-2 Well Schematic





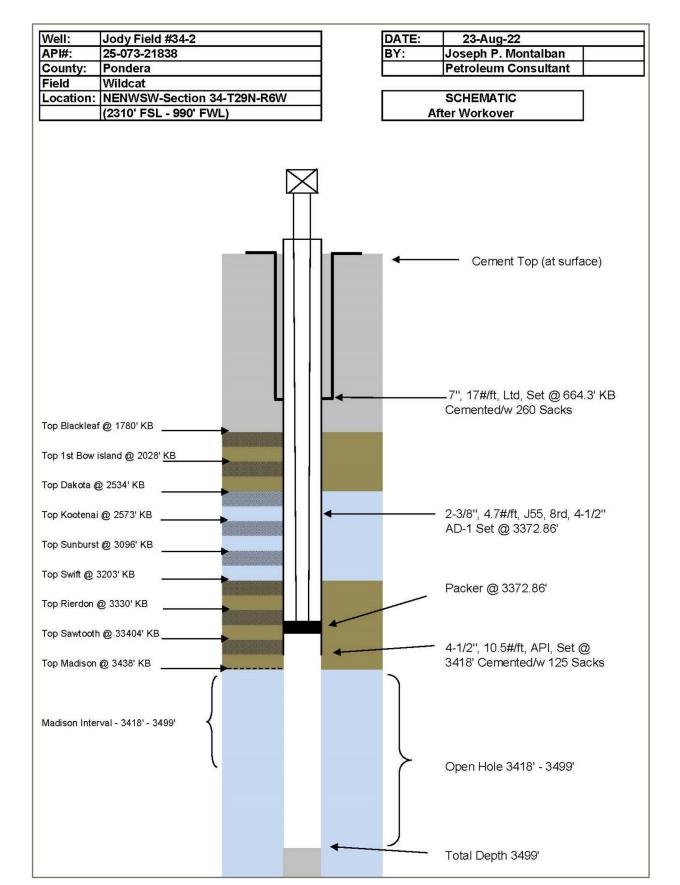
#### WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-1

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS



RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY







#### WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-2

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS



RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY



#### **EXHIBIT A**

Well Records for Jody Field 34-1 and Jody Field 34-2

### **Engineering Completion Report**

Montalban Oil & Gas Operations Inc MOGO/Jody Field 34-1 NWNW – Section 34-T29N-R6W (2310' FSL – 990' FWL) Pondera County, Montana API #25-073-21838

> Altamont Oil & Gas Inc Patrick M. Montalban Petroleum Consultant PO Box 488 Cut Bank, MT 59427

#### Resume

Spud Date:		August 28, 2008	
<b>Completion Date:</b>	May 6, 2008		
Status:		Madison Sun River Dolomite Injection Well	
Elevation:		4071' GR 4076' KB	
Total Depth:		3540' Driller 3539' Logger 4 ½" set @ 3540' Float Collar 3495'	
Hole Size:		8 3/4" (0 - 679') 6 1/4" (679' - 3540')	
Casing Size:		7", 17#/ft, Ltd, ST&C, set @ 674.94' K w/175 sacks Class G Cement 4 ½", 105#/ft, SPI, J55, ST&C, Rge 3 so @ 3539.71 KB w/100 sacks Class G Cement. Float collar @ 3495.42 KB	
Perforations:	New Perforations	3428' - 3432' = 4 SPF = 3 1/8" HSC 3442' - 3446' = 4 SPF = 3 1/8" HSC 3440' - 3442' = 4 SPF = 3 1/8" HSC 3448' - 3452' = 4 SPF = 3 1/8" HSC 3452' - 3466' = 4 SPF = 3 1/8" HSC 3470' - 3480' = 4 SPF = 3 1/8" HSC 3480' - 3490' = 4 SPF = 3 1/8" HSC 3490' - 3493" = 4 SPF = 3 1/8" HSC 3448' - 3474' = 4 SPF = 3 1/8" Exp. 3474' - 3506' = 4 SPF = 3 1/8" Exp. 3506' - 3538' = 4 SPF = 3 1/8" Exp.	
Bridge Plug:		None	
Tubing:		105 joints 2 3/8", 4.7 #/ft, J55. 8rd, ST&C set @ 3398.58' with 4 ½' x 2 38" ADI	
Seating Nipple:		None	
Rods:		None	
Pump:		None	
Pumping Unit:		None	

#### **Daily Activity Summary**

Wednesday September 2, 2022

70°F – 95°F Clear Sky. 30 mph from the west.

Began operations @ 9:00 am.

Moved in and rigged up Liquid Gold Well Service Rig No. 6. Haul in and set circulating tank and power swivel. Rigged up 2:30 pm. Unseat 4 ½" x 2 3/8" AD-1 packer unseated @ 3:00 pm. Pack off tubing. Start and go through circulating pump. Shut down operations due to high winds 30-40 mph. Shut down operations @ 3:30 pm.

Total Rog Hours: 6 ½ hrs x \$260.00= Travel Time: (2 Trucks) (per man) = Tracking Costs:		\$1,690.00 \$180.00
Pickup Costs: 2 trucks x \$60.00	=	\$120.00
Fuel Surcharge: 10%	=	\$169.00
<b>Environmental Safety</b>	=	\$50.00
Tool Pusher		\$350.00
Extra Labor: 1 man x \$45.00/hr	=	<b>\$292.50</b>
		\$2,851.50
Winch Truck: 3 hrs x \$165.00	=	\$495.00
2 hrs Tanker: 2 x \$165.00	=	\$330.00
1 Pickup: (\$60 per unit)	=	\$60.00
Fuel Surcharge: 10%	=	\$82.50
Pump Truck Mileage: 40 miles x	\$4.00	\$160.00
1 Travel per Man: 2 x \$45.00	=	<u>\$90.00</u>
<del>-</del>		\$1,217.50
1 day Consulting = $1500/2$	=	\$750.00
Mileage: 60 miles x 1.00	=	<u>\$60.00</u>
		\$810.00
<b>Total Daily Costs</b>	=	\$4,879.00

#### Thursday September 8, 2022

56°F – Cloudy Sky – 10-15 mph wind from North Began operations @ 8:00 am. Well flowed and equalized on the backside. Pulled and strapped 2 3/8", 4.7#/ft tubing out of the hole. Pulled 105 joints 2 3/8", 4.7#/ft with 4  $\frac{1}{2}$ " x 2 3/8" AD-1 Packer. Tubing tally as follows

 $1 - 4 \frac{1}{2}$ " x 2 3/8" AD-1 Packer = 2.50" 1 - 2 3/8" seating Nipple = 1.10"

105 joints 2 3/8", 4.7#/ft, J55, 8rd = 3391.98'

Total = 3395.58

KB = 3.0

Total String = 3398.58' KB

Stop and pick up 2 joints of 2 3/8" tubing. Tagged as follows and slowly circulated to T.D.

2 joints of 2 3/8" tubing = 3398.58' KB 62.90' 3461.48' KB

Stop and pick up 1 joint of 2 3/8" tubing

1 joint of 2 3/8" tubing = 31.45'
Total 108 joints

Total Tubing = 3492.93' KB

 $48^{\circ}F$  – Raining and very cloudy @ 2:00 pm.

Tagged @ 3461' KB and circulated to total depth 3493' KB and recovered thick black oily sulphur water with many solids. Circulated the last 15' to total depth 3493' KB. Well went on a vacuum and we lost 15 bbls in 1 hour from the circulating tank. Successful clean out of the well. Shut down operations @ 6:00 pm.

Total Rig Hours:  $10 \text{ hrs } \times \$260.00 =$ \$2,600.00 Travel Time: 4 men x 2 hrs x \$45.00 =\$360.00 **Trucking Costs** Pickup Costs: 2 trucks x \$60.00 \$1,200.00 **Circulating Tank: (Pump Tank)** = \$550.00 /day **Power Swivel: 1 x \$250.00** = \$250.00 **Fuel Surcharge: 10%** \$315.00 = **Environmental & Safety** = \$50.00 **Tool Pusher** \$350.00 Swivel Delivery: 40 miles x \$4.00 \$160.00 = 3 7/8" Bit = \$600.00

Bit Sub Extra Labor: \$45.00/hour x 10 hrs Circulating Rubber Pipe Dope	= = = =	\$50.00 \$450.00 \$300.00 \$25.00 \$6,180.00
Vacuum Truck: 2 ½ hrs x \$145.00 1 Pickup 1 hr Travel per Man Fuel Surcharge Total	= = = =	\$362.50 \$60.00 \$90.00 \$36.25 \$548.75
1 day Consulting: 1500/2 Mileage: 60 miles x \$1.00	= =	\$750.00 \$60.00 \$810.00
Total		\$7,538.75

Friday September 9, 2022

 $43^{\circ}F$  - Raining and cold - NW wind from NW Began operations @ 8:00 am. Ran 4 ½" x 2 3/8" AD-1 packer with 105 joints of 2 3/8", 4.7#/ft tubing. Tubing string as follows:

Moved in and rigged up Liquid Gold Pump and Transport Truck. Pressure up backside to 500#/s. Acidized well with 1000 gallons of 28% Hcl (23.8 bbls) Acid job as follows:

=

3398.58' KB

Pumped acid @ 1000#/s to load perforations Pumped 23.8 bbls Hcl acid @ 1000 bbls @ 1 bbl/minute Pumped displacement @

Pumping – 2.0 bbls/minute @ 1200#/s Pumping – 3.0 bbls/minute @ 1750#/s Pumping – 3.0 bbls/minute @ 1100#/s Over displaced by 30.0 bbls

Instant shut in Pressure = 1000#/s 5 minute shut in Pressure = 100#/s 7 minute shut in Pressure = 0#/s

**Total String KB** 

Well on a vacuum. Unseat  $4\frac{1}{2}$ " x 2 3/8" AD-1 Packer and pulled 105 joints of tubing. Pick up 3 7/8" bit and sub and ran tubing string as follows:

1 – 3 7/8" bit and bit sub 108 joints 2 3/8", 4.7#/ft	=	1.25
J55, 8rd, ST&C	=	3492.93'
<b>Total String</b>	=	3494.18'
Pick up 1 joint 2 3/8" tubing Total string = 109 joints	=	31.45
Total string – 107 joints		3525.63 Gr
Add KR	_	3 0'

Add KB =  $\frac{3.0'}{3528.63}$  KB

Tagged float collar @ 3492.93 KB. Picked up power swivel and began to drill float collar @ 3:00 pm. Drilled from 3 7/8" from 3:00 pm to 5:30 pm. Shut down operations @ 5:30 pm

Total Rig Hours: 9 hrs x \$260.00	=	\$2,470.00
Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00 per	man =	\$270.00
Fuel Surcharge: 10%	=	\$357.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor: \$350.00 per day	=	\$350.00
Pump Tank: \$550.00 per day	=	\$550.00
Power Swivel: \$550.00 per day	=	\$550.00
4 1/2" AD-1 Packer: Rental 1 day x	<b>\$250</b> =	\$250.00
Crossover Sub	=	<u>\$50.00</u>
<b>Total Rig Costs</b>	=	\$5,017.00

#### Acid Job = 1000 gallons 28% Hcl

Acid Pump Truck	=	\$1,600.00
Pump Truck Mileage		
Bulk Acid Truck: \$750 per day	=	\$750.00
Mileage Bulk truck: \$4.00/mile x	40 miles	\$160.00
1000 gallons 28% Hcl	=	\$3,250.00
Additives	=	\$489.50
1 Pickup: \$60.00 per day	=	\$60.00
Fuel Surcharge: 10%	=	\$249.50
<b>Environmental &amp; Safety</b>	=	<u>\$75.00</u>
<b>Total Costs</b>	=	\$6,779.00
<b>Total Rig Costs</b>	=	\$11,796.00

Consulting: \$1500per day/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$60.00 \$810.00

Total \$12,606.00

Monday September 12, 2022

59°F – Very Smokey – North/North West wind 15 mph. Began operations @ 8:00 am. Rigged up power swivel and drilling equipment. Drilled from 9:00 am – 10:30 am. Drilled out 4 ½" float collar @ 10:30 am. Drilled 3 7/8" hole from 3495' to 3528.63'. Picked up 110th joint and drilled from 3528.63' to 3538.63' from 10:30 am to 12:00 pm. Drilled 3 7/8" hole from 3583.63' to 3543'. Tag guide shoe. Began to torque up 3 7/8" bit. Total depth @ 3543' KB by rig operators. Circulate and clean hole. Total pipe tally below:

1-37/8" bit and bit sub	=	1.25'
Ran 109 2 3/8", 4.7#/ft, J55, 8rd ST&C Rge 3	=	3524.38'
<b>Total String</b>	=	3525.63
Add KB = 3'	=	3.00° 3528.63°
Picked up 110 joints = 31.45' Drilled 14' of the 110 joints	=	14.0'
<b>Total String</b>		3542.63

Total depth 3543.0' KB by rig operator. Circulated hole clean for 1 hr. Hole clean. Tripped 110 joints out of the hole. Pick up 3 7/8" bit and casing scraper.

69° - Very smokey – North/Northwest wind @ 15 mph Trip 110 joints 2 3/8", 4.7#/ft tubing into hole and tag total depth 3543' KB by operator. Circulated hole and reciprocate a number of times from 3420' – 3543' KB. Circulated tubing and rotate tubing and well cleaned out to total depth with no fill. Lift tubing above 3420'. Shut down operations @ 5:00pm.

Total Rig hours: 9hrs x \$260.00	=	\$2,340.00
Daily Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45/hr/man	=	\$360.00
Fuel Charge: 10%	=	\$344.00
Environmental & Safety	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump & Tank	=	\$550.00
Power Swivel	=	\$550.00
4 ½" Scraper	=	\$150.00
3 7/8" Bit for Scraper	=	\$200.00
Extra Labor: (1 guy) \$45/hr	=	\$405.00
Bit Sub	=	\$50.00

Tuesday September 13, 2022

59°F – Very Smokey – Very little wind Began operations @ 11:00 am. Tripped to total depth 2543' KB and tagged no fill. Rolled hole and circulated well clean. Trip out of hole for perforating company. Rigged up Nine Energy Service @ 2:00 pm. Ran 3.75" gauge ring to total depth 3538' KB. Perforated 3506' – 3538' = 4 SPF, 3 1/8" expendable gun. 32' = 120 shots, successful shooting. Perforated 3474' – 3506' = 4 SPF, 3 1/8" expendable gun. 32' = 120 shots, successful shooting. Perforated 3448' – 3474' = 4 SPF, 3 1/8" expendable gun. 26' = 96 shots, successful shooting. Shot 90' of the Sun River Dolomite Formation. Rigged down Nine Energy Service. Tripped in \_\_\_\_\_\_ joints of 2 3/8" tubing with a 4 ½" x 2 3/8" SD-1 Packer with 3 joints of tail pipe. Tubing tally as follows:

1-2 3/8" seating nipple	=	1.10'
105 joints 2 3/8", 4.7#/ft, J55, 8rd		
ST&C Rge 3	=	3391.98'
Total		3395.58'
KB = 3'	=	<u>3.0'</u>
		3398.58'
3 joints of tubing = total 108 joints	=	<u>94.35'</u>
3 joints of tubing below packer		
Set @		3492.93'

2.50

Packer set @ 3398.58' KB

 $1 - 4\frac{1}{2}$ " x 2 3/8" AS-1 Packer

Set 4 ½" x 2 3/8" AS-1 Packer @ 3399' KB. Shut down operations @ 6:30 pm

Total Rig Hours: 7 ½ x \$260.00	=	\$1,950.00
Daily Pickup: 2 hrs x &60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/man	=	\$270.00
Fuel Surcharge: 10%	=	\$250.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump & Tank	=	\$550.00
Pipe Dope	=	<u>\$25.00</u>
<b>Total Costs</b>	=	\$3,515.00

3 hours water tanker: 3 x \$165.00 = \$495.00 2 hours pickup: 2 x \$45.00 = \$90.00 1 pickup: = \$60.00 Fuel Surcharge: 10% = \$49.50 Environmental: \$50.00/day = \$50.00 \$744.50

**Nine-CDK Perforating LLC** 

Perforated Madison Sun River Dolomite \$28,770.00

1 day Consulting: 1500/2 = \$750.00 Mileage: 60 miles x \$1.00/mile = \$60.00 \$810.00

**Total Daily Costs** = \$33,839.50

#### **Perforating Summary**

MOGO/Jody Fields 34-1 SESESW Section 34-T28N-R6W Pondera County Montana

No. 1 Perforated Interval
Perforated Formation – Madison Sun River Dolomite
Perforated Interval – 3506' – 3538'
3 1/8" Expendable Gun = 33.2" Penetration .55 Diameter
4 SPF = 120 Shots
Collar Locator = 3503'7"
Shot @ 3:21 pm
Successful Shooting

No. 2 Perforated Interval
Perforated Formation – Madison Sun River Dolomite
Perforated Interval – 3474' – 3506'
3 1/8" Expendable Gun = 33.2 Penetration .55 Diameter on shot hole
4 SPF = 120 Shots
Collar Locator 3503'7"
Shot @ 3:57 pm
Successful Shooting

No. 3 Perforated Interval
Perforated Formation – Madison Sun River Dolomite
Perforated Interval – 3448' – 3474'
3 1/8" Expendable Gun = 33.2 Penetration .55 Diameter on shop hole
4 SPF = 96 shots
Collar Locator = 3445'7"
Shot @ 4:29 pm
Successful Shooting

55°F – Very Smokey – Wind from NW @ 9 mph Began operations @ 8:00 am. Moved in and rigged up Liquid Gold Well Service Pump Truck and Acid Transport. Pressured backside to 600#/s. Held OK. Began acid job @ 10:00 am. Acidized well with 1000 gallons of 28% Hcl Acid as follows:

Total Acid = 23.8 bbls Total displacement = 15.5 bbls. Load acid in tubing. Acid on perforation with 13.5 bbls pumping @ 400#/s. Acid job as follows:

Pumped 2.0 bbls/min @ 900#/s Pumped 2.0 bbls.min @ 1000#/s Pumped 23.8 bbls of acid and start displacement Pumped 2.0 bbls/min @ 900#/s pumped 13.5 bbls of displacement

Pumping 3.0 bbls/min @ 1400#/s displacement
Pumping 3.0 bbls/min @ 1500#/s 10 bbls over displacement
Pumping 3.0 bbls/min @ 1000#/s displacement
Pumping 3.0 bbls/min @ 1000#/s 5 bbls over displacement

#### Pumped 35.0 bbls over displacement

ISI = 600#/s 1 minute shut in = 100#/s 2 minute shut in = vacuum

Job ended. Moved out Liquid Gold Equipment Unseat 4 ½" x 2 3/8" AD-1 Packer

1:00 pm – 59°F – Very Smokey Tripped out 105 joints of 2 3/8" tubing. Remove packer. Pickup rebuilt 4 ½" x 2 3/8" AD-1 packer. Ran tubing as follows:

1 – 4 ½" x 2 3/8" AD=1 Packer = 2.50' 1 – 2 3/8" Seating Nipple = 1.10'

105 joints 2 3/8", 4.7#/ft, J55, 8rd ST&C tubing = 3391.58'

> Total String = 3395.58' KB = 3.0'

**Tubing set @ 3398.58' KB** 

Rolled to casing with 50 bbls of corrosion inhabitated water. Fluid clean. Landed 4 ½" x 2 3/8" AD-1 Packer with 13,000#/s over string weight. Held OK. Ran MIT test on well as follows:

<b>Time</b>	<b>Pressure</b>	Result
2:24 pm	450#/s	Held OK
2:29 pm	450#/s	Held OK
2:34 pm	450#/s	Held OK

Passed MIT test. Rigged down and moved Fields #34-2. Shut down operations @ 3:00pm

Total Rig Hours: 7 hrs x \$260.00	=	\$1,820.00
Daily Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 1 hr x \$45.00/man	=	\$135.00
Fuel Surcharge: 10%	=	\$237.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor	=	\$350.00
Pump & Tank	=	\$550.00
4 ½" Redress Packer	=	\$500.00
2" fill port part 3000#/s valve		
For acid job & pressure handline	=	\$540.00
4 ½" x 2 3/8" AD-1 for acid job	=	\$250.00
Pipe Dope	=	<u>\$25.00</u>
<b>Total Costs</b>	=	\$4,442.00

#### Acid job 1000 gallons 28% Hcl

Acid Pump Truck	=	\$1,600.00
Bulk Acid Truck	=	\$750.00
<b>Bulk Mileage</b>	=	\$160.00
Bulk Acid 1000 gallons @		
3.25 x 1000	=	\$3,250.00
Additives	=	\$704.50
Environmental: \$75.00/day	=	\$75.00
1 Pickup	=	\$60.00
Fuel Surcharge: 10%	=	<b>\$301.00</b>
<b>Total Costs</b>	=	\$7,560.00
1 Day Consulting: 1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	<u>\$60.00</u>
J		\$810.00

Total Daily Costs =

\$12,812.00

**Total Workover = \$77,979.25** 

# **Engineering Completion Report**

Montalban Oil & Gas Operations Inc MOGO/Jody Field 34-2 NENWSW – Section 34-T29N-R6W (2310' FSL – 990' FWL) Pondera County, Montana API #25-073-21838

**Lone Man Coulee Field** 

Altamont Oil & Gas Inc Patrick M. Montalban Petroleum Consultant PO Box 488 Cut Bank, MT 59427

# Resume

Spud Date:	August 7, 2008
Completion Date:	August 18, 2008
Status:	Madison Sun River Dolomite Injection Well
Elevation:	4033' GR 4038' KB
Total Depth:	3415' Driller 3451' Logger
Hole Size:	8 <sup>3</sup> / <sub>4</sub> " (0 – 668') 6 <sup>1</sup> / <sub>4</sub> " (668' – 3415') 3 7/8" (3415' – 3451') New Open Hole
Casing Size:	7", 17#/ft, Ltd, ST&C, set @ 664.30' KB cemented w/260sacks Class G Cement 4 ½", 10.5#/ft, API, J55, ST&C, Rge 3 set @ 3418' KB w/125 sacks Class G Cement.
Perforations:	None
Bridge Plug:	None
Open Hole:	3418' – 3499' KB
Tubing:	107 joints 2 3/8", 4.7 #/ft, API, J55, Rge set @ 3366.36
Seating Nipple:	3365.16 KB
Rods:	None
Pump:	None
Pumping Unit:	None
Status:	Injection Well

# **Daily Activity Summary**

Wednesday	7	
September	14,	2022

70°F – Partly Cloudy – Smokey – NW wind @ 10 mph. Began operations @ 3:00 pm. Moved in and rigged up Liquid Gold Well Service Rig No. 6. Unseat 4 ½" x 2 3/8" AD-1 packer. Trip 107 joints of 2 3/8", 4.7#/ft, J55, API out of hole. Strapped out of the hole. 4 ½" x 2 3/8" AD-1 packer looked good. Shut down operations @ 7:00 pm

Total Rig Hours: 4hrs x \$260.00 = \$1,040.00 Pickup Travel: 1 hr x 1 hr x \$45.00/man \$135.00

Environmental = \$50.00 Fuel Surcharge: 10% = \$104.00

Total Costs = \$1,279.00

Thursday September 15, 2022

 $60^{\circ}F$  - Smokey - Partly Cloudy - Very little wind Began operations @ 8:00 am. Moved in circulating tank and power swivel. Haul H2O into location to fill tanks and clean well out to total depth: 3451'. Ran 109-2 3/8", 4.7#/ft, J55, 8rd with 3 7/8" bit to clean out well to total depth 3451'. Tubing as follows:

Out

Total String = 3420.90' KB = 3.00' 3423.90' KB

3423.90

In

Finish hauling equipment and H2O into circulating tanks. Need to clean out 27' out of open hole.

# Thursday September 15, 2022

 $64^{\circ}F$  – Smokey – Slight rain @ 3:00 pm. Tagged tubing @ 3424' KB. Cleaned out 3 7/8" hole from 3424' to 3451'. Hard drilling. Could be drilling on float collar from 4 ½" casing. Total depth by operator 3451' KB. Shut down operations @ 6:00 pm.

Total Rig Hours: 10 hrs x \$260.00	=	\$2,600.00
Daily Pickup: 2 trucks x \$60.00	=	\$170.00
Pickup Travel: 2 hrs x \$45.00/man	=	\$270.00
Fuel Surcharge: 10%	=	\$370.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump and Tank	=	\$550.00
Power Swivel	=	\$550.00
Bit Sub	=	\$50.00
3 7/8" Bit	=	\$200.00
Trailer Rental	=	\$100.00
Pipe Dope	=	<u>\$25.00</u>
<b>Total Costs</b>	=	\$5,235.00

# **Other Costs**

Winch Truck: \$165.00/hr 5 x \$165	.00	\$825.00
Tanker: 2 hrs x \$165.00/hr	=	\$330.00
Vacuum Truck: \$145.00/hr x 2 hrs	<b>s</b> =	\$290.00
<b>Environment Safety</b>	=	\$75.00
Fuel Surcharge	=	<b>\$144.00</b>
		\$1,664.50

Consulting: \$1500/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$\frac{\$60.00}{\$810.00}

Total Daily Costs = \$7,709.50

Friday September 16, 2022

55°F – Little Smokey – Little wind – Slight rain Began operations @ 8:00 am. Circulate & clean out well bore. Continue to torque up 3451'. Lose approximately 5 – 6 bbls of H2O overnight and while cleaning well bore. Drill on float collar on bottom & finish cleaning well bore. Trip out  $109 - 2 \ 3/8$ ", 4.7#/ft, J55, 8rd joints of tubing with 3 7/8" bit. Remove bit and change over and trip in hole with  $107 - 2 \ 3/8$ ", 4.7#/ft, J55, 8rd joints of tubing with 4 ½" x 2 3/8" AD-1 packer. Shut down operations @ 3:30 pm.

Total Rig Hours: 7 1/2hrs x \$260.00	0 =	\$1,950.00
Daily Pickup: 2 trucks = $2hrs \times $60$		\$120.00
Pickup Travel: 2hrs x \$45.00/man		\$270.00
Fuel Surcharge: 10%	=	\$305.00
<b>Environmental &amp; Safety</b>	=	\$50.00
<b>Supervisor &amp; Tool Pusher</b>	=	\$350.00
Pump and Tank	=	\$550.00
Power Swivel	=	\$550.00
<b>Change Over for Bit</b>	=	\$50.00
Wellhead Rubber	=	\$300.00
Trailer	=	\$100.00
Pipe Dope	=	<b>\$25.00</b>
<b>Total Daily Costs</b>	=	\$4,620.00
1 day consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	\$60.00
		\$810.00
<b>Total Costs</b>	=	\$5,430.00

Monday September 19, 2022

60°F – Partly Cloudy

Began operations @ 8:00 am. Well on a vacuum. Set  $4\frac{1}{2}$ " x 2 3/8" AD-1 packer with 15,000#/s over string weight. Tubing string as follows:

3.00

**KB** 

Pressure tested and pressure up backside to 500#/s. Held OK. Acidized well with 100 gallons 28 Hcl. Acid job as follows:

Acid Job = 1000 gallons 28% Hcl

Pumped 1.0 bbls acid @ 1.5 bbl/min @ 500#/s Pumped 2.3 bbls acid @ 1.5 bbl/min @ 750#/s Pumped 10 bbls acid @ 1.5 bbl/min @ 1000#/s Pumped 10 bbls acid @ 1.5 bbl/min @ 1000#/s Total 23.8 bbls acid

Pumped 5.0 bbls of water after acid job. Shut down for 5 minutes and pressure dropped form 1000#/s to 500#/s.

Over-Displaced Acid job with 35 bbls as follows:

Pumping @ 3.0 bbls/min @ 1250#/s 10 bbls displaced

Pumping @ 3.0 bbls/min @ 1500#/s 10 bbls displaced

Pumping @ 3.0 bbls/min @ 1750#/s 10 bbls displaced

Pumping @ 3.0 bbls/min @ 1850#/s 5 bbls displaced

Total 35.0 bbls displaced

Instant Shut in = 1500#/s 5 min shut in = 1100#/s 10 min shut in = 900#/s 15 min shut in = 800#/s

Well flowed back 11.0 bbls after acid job. Tripped in with 3 7/8" bit and sub and tagged on the 100<sup>th</sup> joint. Tubing string as follows:

1-37/8" Bit = 2.50' 1-37/8" x 23/8" changeover sub = 1.10' 110 joints of 23/8" x 4.7#/ft, J55 8rd, ST&C Tubing = 3460.70' 3' KB = 3.00' Total String = 3467.30' KB

Drilled down on the  $110^{th}$  joint. Drilled fairly easy with a few tight spots. Shut down operations @ 6:00 pm

Total Rig Hours: 10hrs x \$260.00	=	\$2,600.00
2 Trucks: 2 x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/mar	ı =	\$270.00
Fuel Surcharge: 10%	=	\$370.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor & Tool Pusher	=	\$350.00
New 3 7/8" Bit	=	\$1,400.00
Pump and Circulating Tank	=	\$550.00
Power Swivel	=	\$550.00
Trailer	=	\$100.00
Tubing Wiper Rubber	=	\$25.00
Bit Changeover 3 7/8" x 2 3/8"	=	\$50.00
Pipe Dope	=	\$25.00
1 – 4 ½" AD-1 Packer (Acid Job)	=	<u>\$250.00</u>
		\$6,710.00
1000 gallon 28% Hcl Acid Job		
1 – Acid Pump Truck	=	\$1,600.00
1 – Bulk Acid Truck	=	\$750.00
Bulk Mileage: 4.00/mile	=	\$160.00
1000 gallons 28% Acid \$3.25/gallo	n	\$3,250.00
Additives	=	\$549.50
Fuel Surcharge: 10%	=	\$301.00
Environmental	=	\$75.00
2 Travel \$45.00/man	=	<b>\$90.00</b>
		\$7,164.50
1 1 6 14 01700/2		<b>6550.00</b>
1 day Consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	\$60.00
		\$810.00
<b>Total Daily</b>	=	\$14,684.50
i otai Dany		ψ1 <b>7,007.</b> 30

Tuesday September 20, 2022

49°F – Partly Cloudy – Wind from N to NW. Began operations @ 8:00 am. Picked up 111 joint and drilling. Tubing string as follows:

1 – 3 7/8" Bit	=	2.50'
1 - 37/8" x 2 3/8" change over	=	1.10'
111 joints 2 3/8" x 4.7#/ft		
J55, 8rd, ST&C Rge 3	=	3492.28'
Total String	=	3495.88'
3.0 KB	=	3.00°
		3498.88' KB

Drilled to total depth 3498.88 KB. Drilling fairly well. Drilling slows down after a break. Have not lost volume. Drilled to total depth 3499' KB Shut down operations @ 5:30 pm

TE / LD: II 01/1 02/00/		00 410 00
Total Rig Hours: 9 ½ hrs x \$260.00	)=	\$2,410.00
Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/hr/m	ıan	\$270.00
Fuel Surcharge: 10%	=	\$357.00
Environmental & Safety	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump and Tank	=	\$350.00
Power Swivel	=	\$550.00
Trailer	=	\$100.00
<b>BA Sub and Cross Over</b>	=	\$50.00
Pipe Dope	=	<b>\$25.00</b>
-		\$4,892.00
Consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	\$60.00
9		\$810.00

**Total Costs** 

Wednesday September 21, 2022

# 32°F - Sunny - No Wind

Began operations @ 8:00 am. Circulated and clean open hole to 3499' KB by operator. Circulated hole 30 minutes to clean to total depth. Tripped 3 7/8" bit and tubing out of hole. Tripped in 4  $\frac{1}{2}$ " x 2 3/8" AD-1 packer for acid job. Tubing string as follows:

\$5,702.00

Circulated corrosion inhibitor on the backside. Set  $4\frac{1}{2}$ " x 2 3/8" AD-1 packer set @ 3372.96 KB with 15,000 #/s over string weight. Pressure up backside to 500#/s. Held OK. Need to repair pump truck. Shut down operations @ 5:00 pm.

Total Rig Hours: 9 hrs x \$260.00 = \$2,340.00 Daily Pickup: 2 trucks x \$60/truck = \$120.00

Pickup Travel: 2 hrs x \$45.00/mar	<b>1</b> =	\$270.00
Fuel Surcharge: 10%	=	\$289.00
Environmental & Safety	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump and Tank	=	\$550.00
Power Swivel	=	\$200.00
Redress 4 1/2" AD Packer	=	\$500.00
Bit Crossover Sub	=	\$50.00
Dope	=	\$25.00
Trailer	=	<u>\$100.00</u>
<b>Total Daily Costs</b>	=	\$4,844.00
•		
Other Costs		
1 Pump Truck	=	\$750.00
Vacuum Truck: 2 hrs x \$145/hr	=	\$290.00
Environmental: \$75.00/day	=	\$75.00
Fuel Surcharge: 10%	=	\$104.00
<b>Total Costs</b>	=	\$1,219.00
		,
1 day Consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	<u>\$60.00</u>
Total Costs	=	\$810.00
<b>Total Daily Costs</b>	=	\$6,873.00
•		,

Thursday September 22, 2022

46°F – Cloudy – Slight Rain – Wind from SW Began operations @ 10:00 am. Moved in and rigged up Liquid Gold Well Service Acid Bulk Truck and Pump Truck. Acidized well with 1000 gallons 28% Hcl. Acid job as follows:

1000 gallons 28% Hcl Acid
23.8 bbls of Acid
13.55 bbls of tubing volume

Began job @ 10:52 am:

Pumped 28.0 bbls of acid from 300#/s to 800#/s @ 1.5 bbls/minute Finished pumping acid @ 800#/s @ 1.5 bbls/minute Shut down and pressure dropped to 500#/s

Displaced 48.0 bbls as follows

Pumped 13.5 bbls 110#/s @ 1.6 bbls/minute Over-displaced by 35bbls as follows

Pumped 5.0 bbls @ 1600#/s @ 3 bbls/minute Pumped 10.0 bbls @ 1650#/s @ 3 bbls/minute Pumped 10.00 bbls @ 1700#/s @ 3 bbls/minute Pumped 10.0 bbls @ 1700#/s @ 3 bbls/minute

# Pumped 48.5 bbls displacement

Instant shut in	=	1100#/s
5 min shut in	=	650#/s
10 min shut in	=	350#/s
15 min shut in	=	200#/s

Well in a vacuum. Rigged down Liquid Gold Well Service. Ran MIT test for state @ 3:00 pm. Pressured up backside to 345#/s. Slow leak. Moved packer and pulled 15,000#/s over packer. Pressure tested to 350#/s. Failed test. Pulled tubing and packer to repair leak. Shut down operations @ 5:30 pm

Total Rig Hours: 7 ½ hrs x \$260.0	0=	\$1,950.00
Daily Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/mai	n =	\$270.00
Fuel Surcharge: 10%	=	\$250.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump & Tank	=	\$500.00
Tailer	=	<u>\$100.00</u>
<b>Total Costs</b>	=	\$3,640.00

# **Acid Job**

1 Pump Truck	=	\$1,600.00
Bulk Acid Truck	=	\$750.00
<b>Bulk Mileage: 4.05/miles</b>	=	\$160.00
1000 Bulk Acid: 3.25/gallon	=	\$3250.00
Additions	=	\$684.50
Fuel Surcharge: 10%	=	\$280.50
2 Vacuum Trucks: \$145.00/load	=	\$290.00
<b>Environmental &amp; Safety</b>	=	<u>\$75.00</u>
<b>Total Costs</b>	=	\$7,254.50

# **MI Test**

Tanker Truck: 2 ½ hrs x \$165.00	=	\$412.50
Vacuum Truck: 2 ½ hrs x \$145.00	=	\$290.00
Pickup: 1 truck x \$60.00	=	\$60.00
Travel: 1 hr x \$45.00/man	=	\$90.00
Fuel Surcharge: 10%	=	<u>\$70.00</u>
<b>Total Costs</b>	=	\$922.50

1 day Consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	<u>\$60.00</u>
<b>Total Costs</b>	=	\$810.00

Friday September 23, 2022

55°F – Clear – Slight wind from the East Began operations @ 8:00 am. Tripped 2 3/8", 4.7#/ft, J55, 8rd, with 4 ½" scraper to 3373' KB. Added 10' tubing sub and cleaned to 3383 KB. Dropped standing valve and pressured tubing to 500#/s. Slow leak. Pressure testing tubing to 1000#/s. Could not find hole. Ran 45 joints, ran 24 joints and ran 12 joints would hold 1000#/s and slowly leak off. Ran 2 more joints would not hold. Ran 83 joints into hole. Shut down operation for night. Did not find tubing leak. Shut down operations @ 4:00 pm.

Total Rig Hours: 8 hrs x \$260.00	=	\$2080.00
Daily Pickup: 2 hrs @ \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/man	_	\$270.00
Fuel Surcharge: 10%	=	\$208.00
<b>Environmental and Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Redress 4 ½" AD-1	=	\$500.00
4 ½" Scraper	=	\$150.00
3 7/8" Bit on Scraper	=	\$200.00
Trailer	=	\$100.00
Pipe Dope	=	<u>\$25.00</u>
<b>Total Costs</b>	=	\$4,053.00

1 day Consulting: \$1500/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$\frac{\$60.00}{\$810.00}

ψ010.00

**Total Costs** \$4,863.00

Tuesday September 27, 2022

82°F – Clear – Wind from South 8 -10 mph Tripping in hole and pressuring tubing to find leak. Pressured to 2000#/s and Held OK. Added 2 joints and pressured to 2000#/s. Slow leak. Found leak on the 100<sup>th</sup> joint. Very small leak. Could not find without pressure on tubing. Tripped 2 3/8" x 4.7#/ft, J55 with 4'6" packer. Fished standing valve with sand line. Tubing string as follows. Replace 110 joint was 31.70' with a new joint of 31.60'.

1 – 4 ½" AD-1 Packer = 2.50' 1 – 2 3/8" Seating Nipple = 1.10'

107 joints 2 3/8", 4.7#/ft, J55

8rd tubing = 3366.26'

Total String = 3369.86 Gr

 $3.0' \text{ KB} = \frac{3.0'}{3372.86 \text{ KB}}$ 

Filled the backside with produced H2O. Ran MIT on well as follows

MIT Test Began @ 4:32 pm

<u>Time</u>	<b>Pressure</b>	Time Sch			
4:32 pm	360#/s	0			
4:37 pm	360#/s	4:37	5 minutes		
4:42 pm	360#/s	4:42	10 minutes		
4:47 pm	360#/s	4:47	15 minutes		

## **MIT Passed**

83°F – Sunny – 5 -10 mph from SW Passed MIT test. Shut down operations @ 5:00 pm

Total Rig Hours: 9hrs x \$260.00	=	\$2,340.00
Daily Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/man	=	\$270.00
Fuel Surcharge: 10%	=	\$249.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Water Truck: 2 hrs x \$75.00	=	\$150.00
Pipe Dope	=	\$25.00
D 1 41/9 4D 4 / 11		

Redress 4 ½" AD-1 (new rubber, shewing and labor) = <u>\$200.00</u> Total Costs = \$3,704.50

Consulting: \$1500/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$60.00 \$810.00

Total Cost = \$4,514.50

Wednesday September 28, 2022

Tuesday

**September 27, 2022** 

 $56^{\circ}F$  – Sunny – Slight wind @ 5-10 mph from S Began operations @ 8:00 am. Circulating hole with fresh water and corrosion inhibitor. Set  $4\frac{1}{2}$ " x  $2\frac{3}{8}$ " AD-1 with 12,000#/s over string weight. Test MIT and lost a few pounds. Pulled 22,000#/s over string weight. Ran MIT test for State Inspector Gary Klotz

<b>Time</b>	<b>Pressure</b>	<b>Elapsed Time</b>
9:56 am	378#/s	0
10:01 am	375#/s	5 min
10:06 am	375#/s	10 min

10:11 am 375#/s 15 min

Passed MIT @ 10:11 am. Passed by State of MT Inspector Gary Klotz. Rigged down Liquid Gold Well Service. Moved rig to yard. Shut down operations @ 11:00 am

Total Rig Hours: 3 hrs x \$260.00	=	\$780.00
Daily Pickup: 2 hrs x \$60.00	=	\$120.00
Rig Travel: 3 ½ hrs x \$45.00/man	=	\$785.00
Fuel Surcharge: 10%	=	\$158.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Water Truck: 2 hrs x \$75.00	=	<u>\$150.00</u>
<b>Total Costs</b>	=	\$393.00

Consulting: \$1500/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$\frac{\$60.00}{\$810.00}

Total Costs = \$3,203.00

Total Workover Costs = \$66,885.00

# **CHECK SHEET**

Date:	4/21/2008			API	Number:	073-218	30
Company:	AltaMent Oil & Gas	Inc. Mount	ain View	Energy Inc.			
Well Name:	Jody Field 34-1						
County:	Pondera						
Field:	Wildcat Pondera /	oneman Coul	ec				
Surf. Location:	330FSL 2310F	WL SE	SW Lo	ot: Sec:	34 Twp:	29 N Rng:	6W
Permit I	Number: 26562			Drilling Fe	e:		
Intentio	n to Drill: 4/21/2008	8		Expiration Da	te: 10/21/	2008	
Mineral	Ownership:	✓ Private	☐ State	☐ Federal	☐ Indian		
Well Ty	/pe: Vertical			☐ Multiple L	aterals		
Propose	ed Depth/Formation:	MD: 3450	TVD:		Sun Riv	ver Dolomite	
Drilling	Unit Acres	Descript	ion:				
Sample	s Required: 🗆			Received	:		
		COMPLET	TION INFOR	MATION			
Comple	tion Date: MAY (	2008	TD:	3543	PBTD:	NA	
Comple	AIII	. (	IP / Forma	0			
				MAG	Hison		
Geologi	cal Well Report:		Mud L	og:			
Sundry	Notices: Chg. of Op						
	Intent-addle	Madison 6	-6-11				
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	al -						
Subsec	uent Report of Aband	onment: Re	ceived		Approved:		
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Miscella	aneous:						
						Lawrence Committee	

# **CHANGE OF OPERATOR RECORD**

JODY FIELD 34-1 29N, 6W, Sec. 34: SESW API #073-21830

TO: Mountain View Energy, Inc. FROM: Altamont Oil & Gas, Inc. DATE: August 17, 2010

Form No. 4 R 4-85

LOCATE WELL CORRECTLY 34

FEB - 5 2009

BOARD OF OIL AND GAS CONSERVATION MONTANA BOARD OF O'ARM 36.22.1013
OF THE STATE OF MONTANA
BILLINGS OR SHELBY

# COMPLETION REPORT

									#21. 1
	ALTAMONT C								ll No#34-1`
Address_P	O BOX 488	- CUT BAI	NK MT	59427	F	ield (or A	rea)WID	LCAT	10 at 2
The well is	located_330	ft. from	n (S) line	and 231	0 ft.	from (W)	line of Sec.	34	
Sec34	; T. 29N	_; R6W_	; Cou	ntyPO	NDERA	-		; Elevation_	4071 GL (D.F., R.B. or G.L.)
Commence	d drilling_A	APRIL 30,	2008	, X	9; Co	ompleted	MAY 6,	2008	, 19
Write the A	PI# or the w	ell name o	of anothe	r well on	this lea	se if one	exists	1	
The info	ormation give on of the well	n herewith I at the ab	n is a com ove date.	plete and	correct	record of	the well. Th	esummaryo	n this page is for
	as OIL W	ELL			Signe	d Mi	delal		
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API# 250/	3 - 21830	,			Title				- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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							-	371	
				TUBIN	G REC	ORD		<u> </u>	
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JAN -7 2009

MONTANA BOARD OF OIL & GAS CONS. BILLINGS

# Electric Log Formation Tops

Cretaceous	<u>Depth</u>	<u>Datum</u>
Calarada		
Colorado Two Medicine		
Blackleaf	1780	+2296
Blackleaf Bentonite Marker	1820	+2256
Blackleaf Sandstone	1826	+2250
Base Fish Scales		
1 <sup>st</sup> Bow Island	1878	+2198
2 <sup>nd</sup> Bow Island	2030	+2046
3 <sup>rd</sup> Bow Island	2132	+1944
4 <sup>th</sup> Bow Island "A"	2376	+1700
4 <sup>th</sup> Bow Island "B"	2423	+1653
Dakota	2544	+1532
Kootenai	2586	+1490
Sunburst	3081	+995
<u>Jurassic</u>		
Morrison	3152	+924
Swift	3186	+890
Swift Shale	3274	+802
Rierdon(Ellis Shale)	3327	+749
Sawtooth	3404	+672
Sawtoodi		
Mississippian		
<u>1</u> 111331331 <u>p</u> 51411		
Madison(Sun River Dolomite)	3428	+648
,		
Total Depth:	3543	+533
Total Deptil.	5515	

FORM NO. 22 R7/99	.307 Lease Name: .601 JODY FIELD #34-1								
MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE, BILLINGS, MONTANA 59102						Lease Type			derai):EIVED
2555 51. 30	-	Well Numb	er:						
Т	[vert	ation for Permit	D	1		34-1			APR 1 4 2008
1	Tx dr	Deepen	Re-enter	7 _	<u> </u>	Unit Agree	ment Nam		
		Gas L	Other			Field Name	or Wildca	t: & GA	TANA BOARD OF C
	MONT OIL & G	AS, INC				WILDCAT			DIELING
	30X 488				ĺ	Objective F		,	
City CUT BANK			IP 59427			Section, To			& MADISON
Telephone Numl	ber (406) 873	9000				SECTION			
,		arter section and fo	otage measure	ements	s)	County:		,	
	34-T29N-R6W	1							
(330' FSL x	2310' FWL)								
						PONDERA			
(if directionally drilled, show	both surface and bottom ho	ole locations above)							
Proposed total d	epth F	ormation at total	depth	Eleva	ation	(indicate G	L or KB)		
3,450'	M	MADISON/SUN R	TVED		7. (	071' GL			
		acing unit API		other v			(if any)	Anticin	pated spud date
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0-1/4	4-1/2"	9.5#/ft	J55		3	,450'	50' 100 sx		Class G
						A			
Describe Proposed Operations:  Describe or attach labeled diagram of blowout preventer equipment. Indicate if air drilled or describe mud program.  Altamont Oil & Gas, Inc proposes to drill this well to test for oil and or gas in the Bow Island, Sunburst & Madison formations. No DST's or cores are planned. Surface casin will be cemented from surface to approximately 650' ensuring good returns to surface. The well will be drilled with air and drilling mud from casing point to TD. Open hole logs will be run from surface to TD. Production zones will be perforated & tested. Blowout equipment will be as indicated on the attached exhibit and will be tested at regular intervals.									
BOARD USE OF	NLY						1/	1	7
Approved (date)  APR 2 1 2008 Permit Fee									
TitleTITLE	DINGFECTOR	Permit Expires ————————————————————————————————————	562		Pre	esident 8	& CEO		
	THIS PERMIT IS SUBJECT TO THE CONDITIONS OF APPROVAL STATED ON THE BACK  API Number 25- 073 - 21830  Date 4/9/2008								
		/							
Samples Required:	NONE		FROM_						
Core chips to addr	ess below, full cores	to USGS, Core Labor Montana Bos	atory, Arvada, Co ard of Oil and Ga				pe washed,	aried and	delivered prepaid to:
2525 St. Johns Avenue Billings, MT 59102									

SUPPLEMENTAL	INFORMATION

Note: Additional information or attachments may be required by Rule or by special request.

- X1. Attach a survey plat certified by a registered surveyor. The survey plat must show the location of the well with reference to the nearest lines of an established public survey.
- X 2. Attach an 8½ x 11" photocopy of that portion of a topographic map showing the well location, the access route from county or other established roads, residences, and water wells within a½ mile radius of the well.
- X3. Attach a sketch of the well site showing the dimensions and orientation of the site, the size and location of pits, topsoil stockpile, and the estimated cut /fill at the corners and centerstake. (Note: the diagram need not be done by an engineer or surveyor.) Attach a sketch of a top view and two side views of the reserve pit(s), if utilized. The reserve pit sketch must show the length, width, depth, cut and fill, amount of freeboard, area of topsoil stockpile, and the height and width of berms.
  - 4. Describe the type and amount of material or liner, if any, to be used to seal the reserve pit. If a synthetic liner is used, indicate the liner thickness (mils), bursting strength, tensile strength, tear strength, puncture resistance, hydrostatic resistance, or attach the manufacturer's specifications. N/A
  - 5. Describe the proposed plan for the treatment and/or disposal of reserve pit fluids and solids after the well is drilled. If the operator intends to dispose of or treat the reserve pit contents off-site, specify the location and the method of waste treatment and disposal. (Note: The operator must comply with all applicable federal, state, county, and local laws and regulations with regard to the handling, transportation, treatment, and disposal of solid wastes.) N/A
- 6. Does construction of the access road or location, or some other aspect of the drilling operation require additional federal, state, or local permits or authorizations? If yes, indicate the type of permit or authorization required:

X	No additional permits needed
	Stream crossing permit (apply through county conservation district)
	Air quality permit (apply through Montana Department of Environmental Quality)
	Water discharge permit (apply through Montana Department of Environmental Quality)
	Water use permit (apply through Montana Department of Natural Resources and Conservation)
	Solid waste disposal permit (apply through Montana Department of Environmental Quality)
	State lands drilling authorization (apply through Montana Department of Natural Resources and Conservation)
	Federal drilling permit (specify agency)
	Other federal, state, county, or local permit or authorization: (specify type)
OTICE	ES:

## NO

- 1. Date and time of spudding must be reported to the Board verbally or in writing within 72 hours after the commencement of drilling operations.
- 2. The operator must give notice of drilling operations to the surface owner as required by Section 82-10-503, MCA, before the commencement of any surface activity.

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CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

WARNING: Failure to comply with conditions of approval may void this permit.

# WELL LOCATION

APR 1 4 2008

FIELD #34-1
SE1/4SW1/4 SECTION 34, T29N, R6W, P.M.M.
PONDERA COUNTY, MONTANA 330' FSL X 2310' FWL

MONTANA BOARD OF OIL & GAS OONS. BILLINGS

ELEVATION BEFORE GRADING: 4071'

	_ 4			
CALE 1'=1000'	NW1/4SW1/4	3 NE1/4SV1/4	<b>4</b>	NE1/4SE1/4
У Л	SW1/4NW1/4	SE1/4NW1/4	SW1/4NE1/4	SE1/4NE1/4
	NW1/4NW1/4	NE1/4NW1/4	NW1/4NE1/4	NE1/4NE1/4

ELEVATION BEFORE GRADING: 4071' BASIS - NAVD 29

GEOGRAPHIC COORDINATES: 48°13'21.9' N 112°22'16.1' W (NAD 83 BASIS)

BASE POSITION FOR GEOGRAPHIC COORDINATES: 48\*12'38.97587' N 112\*22'44.76679' W (NAD 83 BASIS) (NGS CONTROL POINT CONE, THIRD ORDER)

LAND USE: CULTIVATION (CRP)

NO ATTEMPT HAS BEEN MADE BY THE SURVEYOR TO LOCATE UNDERGROUND STRUCTURES OR BURIED UTILITIES, AND APPROPRIATE AGENCIES AND SURFACE LANDOWNERS MUST BE CONTACTED FOR FIELD LOCATION OF ANY UNDERGROUND STRUCTURES OR BURIED UTILITIES

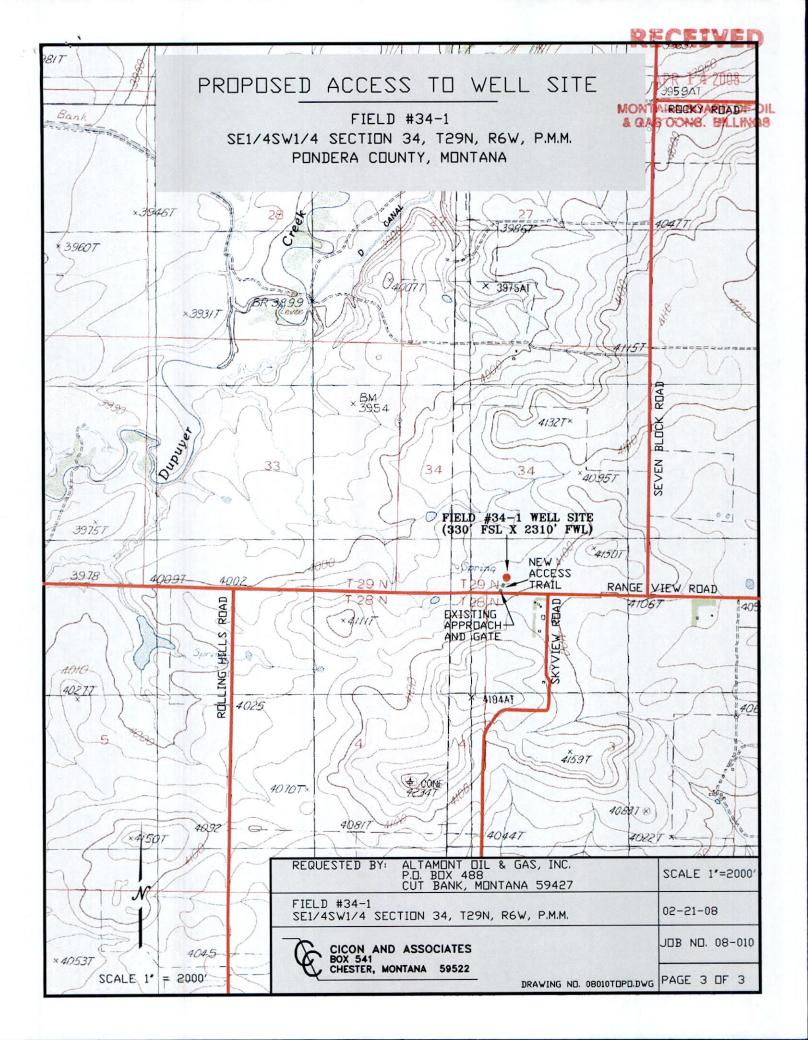
BEFORE ANY CONSTRUCTION COMMENCES. CALL 1-800-424-5555 BEFORE ANY CONSTRUCTION COMMENCES.

NOTE: SUBDIVISION LINES AND GOVERNMENT LOT BOUNDARIES ARE SHOWN FOR DEPICTIVE PURPOSES ONLY AND SHOULD NOT BE USED FOR SCALING OR LOCATION PURPOSES.

ON THE BASIS OF MY KNOWLEDGE, INFORMATION AND BELIEF, I CERTIFY THAT AS A RESULT OF A SURVEY MADE ON THE GROUND TO THE NORMAL STANDARD OF CARE OF PROFESSIONAL LAND SURVEYORS PRACTICING IN THE STATE OF MONTANA, I FIND THE LOCATION OF THE FIELD #34-1 AS SHOWN ON THE SUBJOINED DRAWING.

> 04039 LS JOHN M. CICON

REQUESTED BY: ALTAMONT DIL & GAS, INC. P.D. BOX 488 CUT BANK, MONTANA 59427	SCALE 1'=1000'
FIELD #34-1 SE1/4SW1/4 SECTION 34, T29N, R6W, P.M.M.	02-21-08
CICON AND ASSOCIATES	JDB ND. 08-010
CHESTER, MONTANA 59522  DRAVING NO. 08010ALTASIG.DW	SHEET 1 DF 3



# RIG PAD SITE

RECEIVED

FIELD #34-1 SE1/4SW1/4 SECTION 34, T29N, R6W, P.M.M. PONDERA COUNTY, MONTANA

APR 1 4 2008

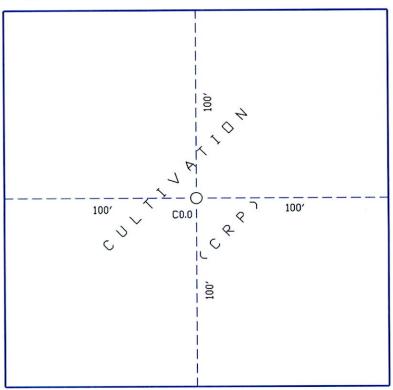
MONTAHA BOARD OF OIL & GAS OONS. BILLINGS

F 3.3'

C 3.7'

F 2.0'

C 4.7'



GENERAL CUTS AND FILLS OF PROPOSED RIG PAD

LAND USE: CULTIVATION (CRP)

ELEVATION OF LOCATION BEFORE GRADING: 4071' BASIS OF ELEVATIONS: NAVD 29

NOTE:

CUTS AND FILLS NOTED ARE FOR PURPOSES OF DESCRIBING THE GENERAL TOPOGRAPHY OF THE PROPOSED RIG PAD AND ARE NOT INTENDED FOR CALCULATION OF DIRTWORK QUANTITIES OR OTHER CALCULATIONS.

SCALE 1' = 50'

REQUESTED BY: ALTAMONT DIL & GAS, INC. P.D. BOX 488 CUT BANK, MONTANA 59427	SCALE 1'=50'
FIELD #34-1 SE1/4SW1/4 SECTION 34, T29N, R6W, P.M.M.	02-21-08
CICON AND ASSOCIATES	JOB NO. 08-010
CHESTER, MONTANA 59522	SHEET 2 DF 3

# RECEIVED

APR 1 4 2008

MONTANA BOARD OF OIL

& GAS OONS. BILLINGS

LOCATION LAYOUT

Gasco Drilling LLC

Fax (406) 434-3863

Phone

TOOL PUSHER TRAILER GENERATOR ROOM 2000 GAL FUEL TANK 1050 X 350 160 BBL Air Compressor Mud WATER TANK Pump INGERSOLL RAND **RD 10** DRILL RIG DOG Suction HOUSE 10' Pit Settling Pit WET PIT <--8'---> 12FT X 12 FT Trench 60 ft ---CELLAR RAMP- > DRILL PIPE WALKINEER TRAILOR ARM Drillpipe racks Casing Racks V

12 FT X 12 FT 6 FT DEEP

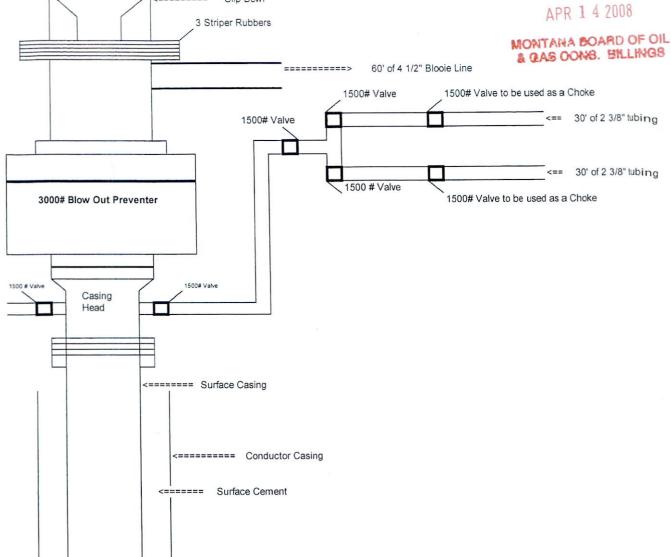
DIMENSIONS OF LOCATION: 200 X 200

SETTLING PIT IS 6' WIDE BY 45' LONG . SUCTION PIT 8' WIDE BY 10' LONG

P.O. Box 963

Shelby, Mt 59474

# RECEIVED



<====== Slip Bowl

**BOP STACK** 

...

RECEIVED

MAY 2 8 2004

ALTAMONT OIL & GAS, INC

APR 1 4 2008

REGAN OFFSHORE INTERNATIONAL, INC.

Torrance, College CAS OONS. BILLINGS

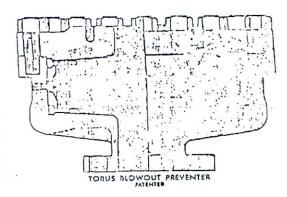
## REGAN BLOWGUT PREVENTERS

The Regan Torus Blowout Preventer is used primurily on production and workover rigs for well control up to 2000 PSI working pressure

### DISIGN FLATURIS

- The Thrus Preventer is designed for mininum height to inciliate its use with production and workover rigs.
- b The rubber packer will conform to any object in the well hore. Scaling ability is not affected by minor damage to the inner bore. The packer will Seal on open hole at full working pressure.

The dual packer design increases the reliability of the preventer since the outer rubber is never exposed to the well bore. Under ordinary service, the outer packer is rurely replaced.



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	Pratiure (611)	Outside	Thru	Avighi	Helpht (10.1	113/3**	Cinne	Dullet 2146	and APS-64 George, (ASIS) can be been delth as mindly Sur, (CO P P). Hearth 1 hange, 1 has Dange accounting
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1	) to0	314	3.	114/	3430	Non. 1	13	15.0%	

# **B.O.P. SPECIFICATIONS**

FORM NO. 2 R 10/09

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1306, 1309, and 1417

Submit In Quadruplicate To:

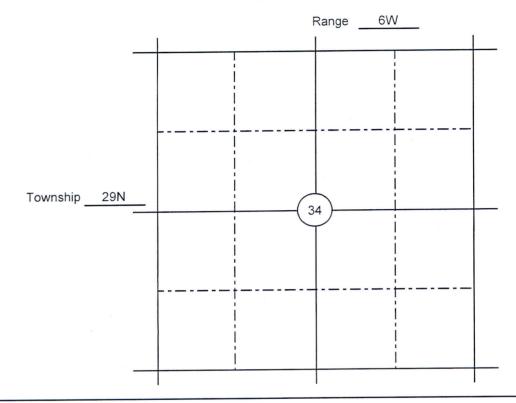
# MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS MONTANA 59102

SUNDRY NOTICES AND REPORT OF WELLS  Operator MOUNTAIN VIEW ENERGY, INC Address PO BOX 200  City CUT BANK State MT Zip Code 59427 Telephone 406-873-2235 Fax 406-873-2835  Location of well (1/4-1/4 section and footage measurements): SSESSW-SECTION 34-T28N-R6W (330° FSL - 2310° FWL)  API Number:  25 1 073   21830	BILLINGS, MONTANA 59102									
Address PO BOX 200  City CUT BANK State MT Zip Code 59427 Trelephone 406-873-2235 Fax 406-873-2835 Location of well (1/4-1/4 section and footage measurements): SESESIA-SECTION 34-T29N-R6W (330*FSL - 2310*FWL)  API Number:  API Number:  Well Type (oil, gas, injection, other):  Oil.  Dits geography well Indicate below with an X the nature of this notice, report, or other data:  Notice of Intention to Change Plans Notice of Intention to Rum Mechanical Integrity Test Notice of Intention to Abandon Well Notice of Intention to Abandon Well Notice of Intention to Abandon Well Notice of Intention to Change Well Status Supplemental Well History Other (specify) CONVERT TO INJECTION WELL  Paperoved  BOARD USE ONLY Approved  AUG 11 2011 Date Original Signed By George Hudek, UIC Director  Type (Private/State/Federal/Tribal/Allotted): Pype (Private/Sta	SUNDRY NOTICES AND REPORT OF WELLS									
Address PO BOX 200  City CUT BANK State MT Zip Code 59427 Telephone 406-873-2235 Fax 406-873-2835 Location of well (1/4-1/4 section and footage measurements):  SESSEM-SECTION 34-T28N-R6W (300 FSL - 2310 FWL)  Well Type (oil, gas, injection, other):  OIL  API Number:  25	Operator MOUNTAIN VIEW EN	ERGY, INC								
Telephone 406-873-2235  Telephone 406-873-2235  Telephone 406-873-2235  Fax 406-873-2835  Location of well (1/4-1/4 section and footage measurements):  SESESW-SECTION 34-T29N-R6W (330' FSL - 2310' FWL)  Well Type (oil, gas, injection, other):  Township, Range, and Section:  SECTION 34-T29N-R6W  County: PONDERA  Indicate below with an X the nature of this notice, report, or other data:  Notice of Intention to Change Plans Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Change Well Status Subsequent Report of Production Waste Disposal Notice of Intention to Change Well Status Supplemental Well History  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed Operations or the completion date for completed operations.  SEE  STIPULATIONS  ON BACK  The undersigned Report of Complete Waste the Information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  Patrix Mam and Title  Patrix M. Montalban, President & CEO  Print Name and Title  Patrix M. Montalban, President & CEO  Print Name and Title  Patrix M. Montalban, President & CEO  Print Name and Title  Patrix M. Montalban, President & CEO  Print Name and Title  Patrix M. Montalban, President & CEO  Print Name and Title  Patrix M. Montalban, President & CEO  Print Name and Title  Patrix M	Address PO BOX 200									
Telephone 406-873-2235 Fax 406-873-2835  Location of well (1/4-1/4) section and footage measurements):  SESEW-SECTION 34-729N-R6W  (300 FSL - 2310 FWL)  API Number:  25	City CUT BANK State I	MT Zip Code 59427								
SESESW-SECTION 34-T29N-R6W  (330 FSL - 2310 FWL)  API Number:  Well Type (oil, gas, injection, other):  Distance County  Well  Notice of Intention to Change Plans Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Change Well Status Subsequent Report of Pulled or Altered Casing Notice of Intention to Change Well Status Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)  Describe planned or completed work in detail. Atlach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  BOARD USE ONLY  Approved  AUG 1 2011  Date  Original Signed By George Hudak, UIC Director	Telephone 406-873-2235	Fax 406-873-2835								
API Number:  API Number:  API Number:  Well Type (oil, gas, injection, other):  Oil  County: PONDERA  Indicate below with an X the nature of this notice, report, or other data:  Notice of Intention to Change Plans Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Stimulation or Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforate or to Cement Notice of Intention to Stimulation or Crementing Notice of Intention to Abandon Well Notice of Intention to Prior After Casing Notice of Intention to Prior After Casing Notice of Intention to Change Well Status Subsequent Report of Perforation or Cementing Notice of Intention to Change Well Status Subsequent Report of Production Waste Disposal Notice of Intention to Change Well Status Subsequent Report of Production Waste Disposal Supplemental Well History Other (specify) CONVERT TO INJECTION WELL  Describe Proposed or Completed Operations:  Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  BOARD USE ONLY  Approved AUG 1 2011 Date Original Signed By George Hudak, UIC Director	SESESW-SECTION 34-T29N-R6W	d footage measurements):								
API Number:    Verification   Verifi			LONEMAN COULEE							
Indicate below with an X the nature of this notice, report, or other data:  Notice of Intention to Change Plans Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Pull or Alter Casing Notice of Intention to Abandon Well Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Subsequent Report of Perforation or Cementing Notice of Intention to Dear of Perforation or Cementing Notice of Intention to Pull or Alter Casing Notice of Intention to Change Well Status Subsequent Report of Dilling Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed Operations or the completion date for completed operations.  SEE  STIPULATIONS  Date  Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Title  (ADE) 873 2035	API Number:	Well Type (oil, gas, injection	OF OTION OF TOOM BOW							
Notice of Intention to Change Plans  Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Change Well Status Subsequent Report of Drilling Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)  Describe Proposed or Completed Operations: Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  SEE STIPULATIONS ON BACK  The undersigned Fereby Certifies that the information contained on this application is frue and correct.  6/21/20  Date  Original Signed By George Hudak, UIC Director  Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Production Waste Disposal Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Production Waste Disposal Subsequent Report of Pulled or Production Waste Disposal Subsequent Report of Pulled or Production Waste D		OIL								
Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Abandon Well Notice of Intention to Abandon Well Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Change Well Status Subsequent Report of Drilling Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)  Describe Proposed or Completed Operations: Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  SEE STIPULATIONS ON BACK  The undersigned report of Stimulation or Treatment Subsequent Report of Perforation or Cementing Subsequent Report of Pulled or Altered Casing Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pull	Indicate below with an X the nature	of this notice, report, or other	r data:							
BOARD USE ONLY  Approved AUG 1 1 2011 Date Original Signed By George Hudak, UIC Director  Date Original Signed By George Hudak, UIC Director  SEE STIPULATIONS ON BACK  The undersigned hereby certifies that the information contained on this application is true and correct.  6/21/2011 Date Signed (Agent) Patrick M. Montalban, President & CEO Print Name and Title	Notice of Intention to Run Mechanic Notice of Intention to Stimulate or to Notice of Intention to Perforate or to Notice of Intention to Abandon Well Notice of Intention to Pull or Alter Ca Notice of Intention to Change Well S Supplemental Well History	cal Integrity Test  Chemically Treat  Cement  asing  Status  ECTION WELL	Subsequent Report of Stimulation or Treatment Subsequent Report of Perforation or Cementing Subsequent Report of Well Abandonment Subsequent Report of Pulled or Altered Casing Subsequent Report of Drilling Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)							
BOARD USE ONLY  Approved AUG 1 1 2011  Date  Original Signed By  George Hudak, UIC Director  The undersigned hereby certifies that the information contained on this application is true and correct.  6/21/2014  Date  Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Title										
BOARD USE ONLY  Approved AUG 1 1 2011  Date Date Signed By  Original Signed By  George Hudak, UIC Director  The undersigned hereby certifies that the information contained on this application is true and correct.  6/21/2011  Date Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Title			SEE							
BOARD USE ONLY  Approved AUG 1 1 2011  Date Date Signed By  George Hudak, UIC Director  The undersigned hereby certifies that the information contained on this application is frue and correct.  6/21/2011  Date Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Title			STIPULATIONS							
BOARD USE ONLY  Approved AUG 1 1 2011  Date			ON BACK							
BOARD USE ONLY  Approved AUG 1 1 2011  Date			The undersigned berefy certifies that the information contained on							
Approved AUG 1 1 2011  Date Date Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Title  (406) 873, 2235	BOADDIISE	ONLY								
Date Signed (Agent)  Original Signed By Patrick M. Montalban, President & CEO  Print Name and Title  (406) 873, 2335	ALIO 1 1 2011	JIL I	6/21/2011 Sald M.							
George Hudak, UIC Director  Print Name and Title	/ tppiovou	_	Date Signed (Agent)							
(406) 873 2235										
Tidino .	Name	Title								

# SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



## **BOARD USE ONLY**

# CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

- · Injection well bond required before injecting.
- · MIT required before injecting.
- · Set packer 3328 ft. or deeper
- · Injection pressure limited to 1,019 psig.
- before injecting. (sent to EPA 7-28-11).

Failure to comply with the conditions of approval may void this permit.

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1305, 1309, and 1417

# Submit In Quadruplicate To:

# MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS, MONTANA 59102

JUN - 6 2011

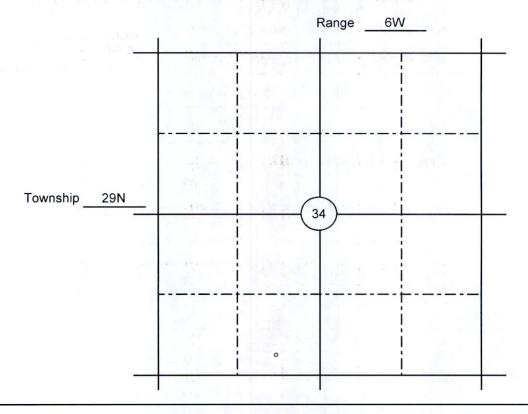
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SUNDRY NOTICES AN	ND REPORT OF WELLS & GAS CONS. BILLINGS
Operator MOUNTAIN VIEW ENERGY, INC  Address PO BOX 200  City CUT BANK State MT Zip Code 59427  Telephone 406-873-2235 Fax 406-873-2835  Location of well (1/4-1/4 section and footage measurements):  SESESW-SECTION 34-T29N-R6W (330' FSL - 2310' FWL)  API Number: Well Type (oil, gas, injection and section and section and section and footage measurements):  ONL  Well Type (oil, gas, injection and section  Lease Name: JODY FIELD  Type (Private/State/Federal/Tribal/Allotted): PRIVATE  Well Number: 34-1  Unit Agreement Name:  Field Name or Wildcat: LONEMAN COULEE  Township, Range, and Section:	
Indicate below with an X the nature of this notice, report, or other  Notice of Intention to Change Plans  Notice of Intention to Run Mechanical Integrity Test  Notice of Intention to Stimulate or to Chemically Treat  Notice of Intention to Perforate or to Cement  Notice of Intention to Abandon Well  Notice of Intention to Pull or Alter Casing  Notice of Intention to Change Well Status  Supplemental Well History  Other (specify)	Subsequent Report of Mechanical Integrity Test Subsequent Report of Stimulation or Treatment Subsequent Report of Perforation or Cementing Subsequent Report of Well Abandonment Subsequent Report of Pulled or Altered Casing Subsequent Report of Drilling Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)
Describe Proposed or  Describe planned or completed work in detail. Attach maps, well-bore or necessary. Indicate the intended starting date for proposed operations of Move in and rig up. Dig drill hole to swab test. Perforate from 3448'-345 3452'-3460' 3460'-3466' 3470'-3480' 3480'-3490' 3490'-3496 Rig up Liquid Gold Well Service and acidize well with 1,000 gallons of 28' Run 4-1/2" packer and tubing in hole. Set packer at 3400'. Test packer	or the completion date for completed operations.  2' and swab test for 4 hours. Additional perforations:  % HCI. to 1000 pounds. Hold for 1/2 hour.
Approved JUN 0 6 2011 Date CHIEF FIELD INSPECTOR Name Title	The undersigned hereby certifies that the information contained on this application is true and correct:  5/23/2011  Date Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Title  Telephone: (406) 873-2235

# SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



## **BOARD USE ONLY**

## CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.



# SPUD INFORMATION

MAY - 5 2008

MONTANA BOARD OF OIL

WELL NAME: Jody Fie	ld 34-1	E GAS COME. BILLINGS
API#: 25-673-21		2
LOCATION: S 34 T20 (Twp-	9 N 6W Rge-Sec: 1/4 1/4)	SE SW
SPUD TIME:	n	Actual 🔀
DRILLING COMPANY:E	osco	
CALLER'S NAME: Patru		
COMPANY NAME: Olton	nont Oil	+ Gas, Tue
OTHER:		
	<u> </u>	

# Montana Board of Oil and Gas Conservation Environmental Assessment

Operator: Altamont Oil & Gas, Inc.

Well Name/Number: Jody Field 34-1	
Location: SE SW Section 34 T29N R6W	
County: Pondera MT; Field (or Wildcat) Wildcat	
Air Quality	
(possible concerns)	
Long drilling time: No, 4 to 5 days drilling time.	
Unusually deep drilling (high horsepower rig): No, 3450' TD	
Possible H2S gas production: Yes	
In/near Class I air quality area: <u>No</u>	
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit requ	<u>ired</u>
<u>under 75-2-211.</u>	
Mitigation:	
X Air quality permit (AQB review)	
_ Gas plants/pipelines available for sour gas	
Special equipment/procedures requirements Other:	
Comments: No special concerns – using small rig to drill to 3450' TD.	
Comments. No special concerns – using smalling to unit to 5450 TD.	
Water Quality	
(possible concerns)	
Salt/oil based mud: No, freshwater, freshwater mud system, air, air mist.	
High water table: No	
Surface drainage leads to live water: No, closest drainages are some unnamed	
ephemeral tributary drainages to Dupuyer Creek, about 3/8 of a mile to the west and	1/2
mile to the northwest from this location.	
Water well contamination: No, closest water wells are about 3/4 of a mile to the nor	
and south of this location and these wells are 207' and 90' in depth. Surface casing	WIII
be drilled with air and/or freshwater mud to 650' and steel surface casing set and cemented to surface from 650'. Small spring located on topographic map, about 1/8	ofa
mile to the northwest from this location.	or a
Porous/permeable soils: No, sandy bentonitic soils.	
Class I stream drainage: No	
Mitigation:	
Lined reserve pit	
X Adequate surface casing	
Berms/dykes, re-routed drainage	
Closed mud system	
Off-site disposal of solids/liquids (in approved facility)	
Other:	
Comments: 650' of surface casing will be set and cemented to surface adec	
to protect freshwater zones. Also, fresh water mud systems or air to be used for dri	iing
surface hole.	

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No, no stream crossings.
High erosion potential: No, small cut, up to 4.7' and small fill, up to 3.3', required.
Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If
productive unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, 200'X200' location size required.
Damage to improvements: No, surface use is cultivated field (CRP).
Conflict with existing land use/values: Slight
Mitigation
Avoid improvements (topographic tolerance)
Exception location requested
X Stockpile topsoil
Stream Crossing Permit (other agency review)
X Reclaim unused part of wellsite if productive
Special construction methods to enhance reclamation
Other
Comments: Access will be over existing county road, Barrett FLDS. A short road will
be constructed, about 300' into this location. Drill cuttings will be buried in the unlined
cuttings pit. Drilling fluids will be allowed to evaporate in the pits. No special concerns
Health Hazards/Noise
Health Hazards/Noise
(possible concerns)
Proximity to public facilities/residences: Closest residence buildings about 3/8 of a mile
to the east of this location.
Possibility of H2S: Yes
Size of rig/length of drilling time: Small drilling rig/short 4 to 5 days drilling time.
Mitigation:
X_Proper BOP equipment
Topographic sound barriers
H2S contingency and/or evacuation plan
Special equipment/procedures requirements
Other:
Comments: No concerns
Wildlife/recreation
(possible concerns)
Proximity to sensitive wildlife areas (DFWP identified): None identified.
Proximity to recreation sites: Lake Frances about 7.5 miles to the northeast.
Creation of new access to wildlife habitat: None identified.
Conflict with game range/refuge management: None identified.
Threatened or endangered Species: None identified.
Mitigation:
Avoidance (topographic tolerance/exception)
Other agency review (DFWP, federal agencies, DSL)
Screening/fencing of pits, drillsite
Other:
Comments: Private surface lands. No concerns

Historical/Cultural/Paleontological (possible concerns) Proximity to known sites: None identified, private surface. Mitigation avoidance (topographic tolerance, location exception) X other agency review (SHPO, DSL, federal agencies) Other: Comments: Private surface. No concerns. Social/Economic (possible concerns) \_\_ Substantial effect on tax base \_\_ Create demand for new governmental services Population increase or relocation Comments: No concerns. Remarks or Special Concerns for this site Well is a 3450' Madison Formation test. Summary: Evaluation of Impacts and Cumulative effects No, significant impacts expected, some short term impacts are expected, but should be able to mitigate these short term impacts. I conclude that the approval of the subject Notice of Intent to Drill (does/does not) constitute a major action of state government significantly affecting the quality of the human environment, and (does/does not) require the preparation of an environmental impact statement. Prepared by (BOGC): Steven Sasaki (title:) Chief Field Inspector Date: April 15, 2008 Other Persons Contacted: Montana Bureau of Mines and Geology, GWIC website (Name and Agency) Pondera County water wells (subject discussed) April 15, 2008 (date) If location was inspected before permit approval:

Inspection date:

nspector:		
Others present during inspection:		

BEFORE THE BOARD OF OIL AND GAS

CONSERVATION

CONSERVATION

INTENTION TO APPLY
FOR PERMIT TO DRILL

ALTAMONT OIL AND GAS WELL

ALTAMONT OIL & GAS. INC

1. PO Box 488
Cut Bank, Montana 59427

SE458W4 - Section 34-T29N-R6W

9. Jody Fields #34-1

SE458W4 - Section 34-T29N-R6W

Ponders County, Montana
3,500 Follos #100

Notice is hereby given that an application for permit for drill an oil and gas well at the surface location set and before the depth as stated will be filed with the ant of Rules 36.22.601 and 36.22.604. Administrative Rules of Montana, an interested party may depard of Oil and Gas Conservation. Pursumand an opportunity to be heard by the Montana Baprication. SUCH DEMAND FOR HEARING MUST SURFACTION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) AND GAS CONSERVATION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) ACTED UPON BY THE BOARD'S PETROLEUMEN. THEIR NOTICE, OR THE APPLICATION OF GINEER WITHOUT HEARING, A DEMAND MUST. THEIR OWNERSHIP INTEREST IN THE LANDS SERVED DATON WHY A HEARING, INTEREST IN THE LANDS SERVED UPON THE APPLICATION WILL BE GINEER WITHOUT HEARING, INTEREST IN THE LANDS SERVED UPON THE APPLICATION WILL BE GINEER WITHOUT HEARING IS SOUGHT; (2) BE MARILED OR FAX TRANSMITTED TO THE ADDRESS SERVED UPON THE APPLICANT BY COPY MARKENS SET FORTH ABOVE.

Montana Board of Oil and Gas Conservation 2535 St. Johns Avenue Billings MT 59102 Office: (406) 655-0040 Fax: (406) 655-6015

# AFFIDAVIT OF PUBLICATION STATE OF MONTANA,

County of Lewis & Clark,

() I V

APR - 9 2008

MONTAHA BOARD OF OIL & GAS CONS. BILLINGS

**Beverly Allison** 

Being duly sworn, deposes and says:

That she is the principal clerk of the Independent Record a newspaper of general circulation published daily in the City of Helena, in the County of Lewis & Clark, State of Montana, and has charge of the advertisement thereof:

That the Oil & Gas - Jody Fields #34-1

a true copy of which is hereto annexed, was published in said newspaper on the following dates: viz.: April 5, 2008

making in all\_\_\_\_\_publication(s)

weelly of alleson

day of April

Subscribed and sworn to before me this 5

Belmingan

NOTARY PUBLIC for the State of Montana Printed Name: Rose Marie Farr Residing at Helena, Montana My commission expires 8-15-2010

(NOTARIAL SEAL)

# Affidavit of Publication

RECEIVED

APR 1 4 2008

Montana Board of Oil & Gas Ooms. Billings

STATE OF MONTANA) County of Pondera) ss. John H Lee being duly sworn upon his oath says: That he is the Publisher of "The independent-Observer," a weekly newspaper of general circulation, published weekly at Conrad, in the County of Pondera, State of Montana. That the notice hereunto attached was published in the said "Independent-Observer" once each week for ... I. ve ... successive weeks. That the first publication of said notice was on the That the last publication of said notice was on the That the said notice was published in the regular and entire issue of every said "Independent-Observer" during the period and time of said publication, and in the newspaper proper, and not in a supplement. Title: Publisher Sworn to and subscribed before me this 10 day of April , 20.08 Nancy Zelenka Notary Public for the State of Montana, residing at Conrad, Montana. My commission expires

June 1, 2010

CONSERVATION OF THE STATE OF MONTANA In the Matter of the application of TINTENTION TO APPLY ) FOR PERMIT TO DRILL ALTAMONT OIL & GAS, INC. OIL AND GAS WELL for a Permit to Drill an oil and gas well.) 1. PO Box 488 Cut Bank, Montana 59427 2. Jody Fields #34-1 SE/4SW/4 - Section 34-T29N R6W (330' FSL x 2310' FWL) Pondera County, Montana 3. Total Proposed Depth: 3,450' Notice is hereby given that an application for permit to drill an oil and gas well at the surface tocation set forth above to the depth as stated will be filed with the Montana Board of Oil and Gas Conservation. Pursuant to Rules 36.22.601 and 36.22.604, Administrative Rules of Montana, an interested party may demand an epportunity to be heard by the Montana Board df Oil and Gas Conservation concerning the application. SUCH DEMAND FOR HEARING MUST BE RECEIVED BY THE MONTANA BOARD OF OIL AND GAS CONSERVATION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) DAYS AFTER THE DATE OF PUBLICATION OF THIS NOTICE, OR THE APPLICATION WILL BE ACTED UPON BY THE BOARD'S PETROLEUM ENGINEER WITHOUT HEARING. A DEMAND MUST: (1) SET FORTH THE NAME, AD-PRESS AND TELEPHONE NUMBER OF EACH INTERESTED PARTY, THEIR OWNERSHIP INTEREST IN THE LANDS SURROUNDING THE PROPOSED WELL. AND THE REASONS WHY A HEARING IS SOUGHT; (2) BE SERVED I IRONLTHE ARRESCANT BY CORY MALE FOR OR FAX TRANSMITTED TO THE ADDRESS SET FORTH ABOVE. Montana Board of Oil and Gas Conservation

BEFORE THE BOARD OF OIL AND GAS

LEGAL NOTICE

RECEIVED APR 1 1 2008

2535 St. Johns Avenue

Published April 10, 2008

Billings MT 59102 Office: (406) 656-0040 Fax: (406) 655-6015 05/05/2008 12:37 4064343963 GASCO DRILLING PAGE 01/01

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# LIQUID GOLD WELL SERVICE, INC.

Cement Work Order Phone 406-873-2966 Fax 406-873-2997

Rev. 4-07

# RECEIVED

P.O. Box 757 Cut Bank, MT 59427

1 ax 400-07	3-2991		JUN - 9 2008		Cut Bank, IVIT 59427
				Invoi	ce #
Company	Altan	ont	MONTANA BOARD OF OIL & GAS CONS. BILLINGS	Date 5	1-08
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City/State				County Pa	nocea
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# LIQUID GOLD WELL SERVICE, INC.

Ceme	nt Work Order
Phone	406-873-2966
Fox	406 972 2007

Rev. 4-07

## RECEIVED

Fax 406-87				- 100	P.O. Box 757 Cut Bank, MT 59427
		1	JUN - 9 2008	Invoice #	2048
0	Alfamon	_	MONTANA BOARD	OF OIL	
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## RECEIVED

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	ON PERSONNEL S	Seifert	, J 13 row		UNI	1.11150	Cut Bank MI
COMPANY _	Altam	snt0.18		ВУ	Que al	1,00	
ADDRESS -							
	ITEM	vices is requested to po	erform the following services  AMOUNT	s according to the te		the reverse of this ORMATION	order.
4500				Casing	Lb/Ft	From	То
	SERVICE CHARG	E:		4 50	1/#	Suffece	675
<u> </u>	E Pickup		.per mile .per mile	7,5	7.57	Surface	3540
	Mast/crane		per mile		<del> </del>	-	+
Service 4	536 Simularia		GL.			·	
Depth	3496			Fluid Later	ارا	Level (surf)	170
Oper.	min ook	cation ch	<del></del>	Competition m	easurements	are from (check	One):
			<del></del>	KB _		3L	Prev. Logs
Service 41	538 Acoustic	Cement Bone	loa	cws to	496	Driller TD_	3540
Depth	3496			Plug model _		Size	. Depth
Oper.	míz ope	ration che	<u>-</u>	Packer _			Depth
-	7 7 7 7	1 /01/28/11	- <del>12</del> .				. Depui
Service 46	50 /20tocate	W/SK HP	<u> 3/124</u>		PER	<u>FORATIONS</u>	
Depth	3732.		. \	interv			PF Total #
Oper.	45 Bun Barr	1 4	<del></del>	3428-	5432	(4) (	4 17
Service	13 DUALDIT	217:			<del></del>		
Depth			<del></del>				<del></del>
Oper.		<del> </del>	<del></del>	<del></del>		<del></del>	<del></del>
			<del></del>		<del></del>		<del>-   </del>
Service							<del></del>
Depth							
Oper.							
		<del>/ 1/                                  </del>		TOTAL PER	FORATIONS:	17 Tito	1/9 gran
Service		(capthing)	and to	TOTALTER	- CIOTIONS.	Prosi	e cro
Depth		11/	1 24	AFE #:			
Oper.		(m-T/ The	12 DX7	APE#25-	<u>073-2</u>	1830	<u> </u>
	<del>/-</del>	<del>// /: /</del>	<del>2 // )</del>	Remarks:		<del></del>	
Service	<del></del>	Hay Const	Din 9	+		<del></del>	<u> </u>
Depth		- of - 10 h	vik /	<del> </del>			
Oper.	EQUIPMENT, RE	NTALS, PERSONN	<del>'</del> EL				<del></del>
			_ i	<del></del>	<u> </u>		
4592	Accesure Contro	VFG-LCF					
		subtot	ź(				
		disco	ente	>			<del></del>
		subtoto					
	MAT	ERIALS					
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رہے رہے ں	E (1200)	<u></u>	<del></del>				<del></del>
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			<del></del>				<del></del>
		Sub total	Ì	46a	Onto :	M. T	//
		Other	BOES	Witnessed by:	TOUTE !	Monta buch Seit	yan_
		TOTAL CHAP Sales Tax	ngeo	Jompetition W	<u> ۱416 ک</u>		<u> </u>
		Sales 18X	RGES			(Please Print)	

Original - Please pay from this Invoice - Due 30 days from above date.

		<b>.</b>	COM		M	ICO Nichania	Aug	Ajelb	7
ate 52	29-(	<u> </u>	-4400 <b>GOM</b>	PE II II II Q ING SERVICES-		69 Niehenke Ilings, Montar			
		62 LEASE/LOCATIO	Williams	2 Fich)	34-1	N			
				3,		1600	- 1 71	1 20	11 41
TATE	M	ontana	COUNTY	nckra	LEGAL 🕹	CJE	SW 34	1-27	W-DN
EVATION	40	KB ELEVATION	4076	RILLER TD 35	40 FIELD	Tilelo	cet,	4	
		(	^	Brown,		_ )	11118	Post	Bor
OMPETITION	PERSO	NNEL J	iler, O	5,000		ONI	10 1/		291121
OMPANY		AHamont	0118600	3	BY_	lesco	lott	2	<u> </u>
	,								
DDRESS	Compe	etition Wireline Services	is requested to perform th	e following services	according to the ter			s order.	
		ITEM		-	01	Lb/Ft	From	-	То
4501		ERVICE CHARGE:		-	Casing	17#	C.C.	1	70
	-	ERVICE CHARGE:		-	4511	9.50	Sucher	35	40
	age	ogging unit ckup ast/crane	@per mil @per mil			1.34	001/000		, ,
	₩ K	ast/crane	_@per mil	<u>e</u>					
Service 40	50	Perforate u	J3/4HPSic	4	Eluid #1	Water	Level (surf)	1130	3 `
Depth		3446	opphiche	<u> </u>			s are from (chec		
Oper.		1/shot@mi	n shot che	<u>.</u>	KB _		GL	Prev. L	ogs 🔀
	45	OWN /SOCIE	7 7	L	CWS TD 3	496	Driller TD	355	10
Service Depth					Plug model _		Size	Depth	
Oper.			REC	CEIVED	Packer _		Size		
					rackei -			Depui	
Service			JU	N 0 4 2008		0.000	RFORATIONS		
Depth			MONTAN	A BOARD OF O	IL 7442-	7446	(4)	SPF 4	Total #
Oper.			& GAS C	ONS BILLING	5/19	7770			,,
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_								-	
Service									
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Service					TOTALTE			9050	ctot
Depth				-	AFE #:	20 1	77 91-		
Oper.		-				25-0	73-218	30	
					Remarks:			_	
Service		1 1 2							
Oper.									
-p		EQUIPMENT, REN	TALS, PERSONNEL					-	
11-0	1	0 1	1101-10	_		11/	- 1/-	(-1	F
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			subtotal			Moune	11 trills	39	1
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11.4.	-	101 45	<i></i>	_		John ch	1 /1/4	dia	
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77/1	-	TIPS CA	Grafaltont.	7	_	077		/	
			iles argy field tota	-					
-			Sub total		*	~		1	
			Other		Vitnessed b	y: Fate	ch Mo	stall	20
			TOTAL CHARGE	S	Competition	ws 5	Bucks	eter	6
			TO TAL CHARGE	77	30mpounon			1. /2	
			Sales Tax TOTAL CHARGE		Jonn poulue.		(Please Pri	nt)	

Date _ 5-	-21-0	\$ (406)	<b>—</b> 652-4400	COMP	PETITION		069 Niehenke illings, Monta		
		LEASE/LOCA		4	()	34-		: 1 74	~~ · · · · · ·
							0 1	,	29N-6W
ELEVATION_4	1071	_ KB ELEVATION	N 407	,	ILLER TO 35 Y				<i></i>
COMPETITION	PERSONNE	55	eiter			ABrow	~ J Bro	#115/	Cut Bank M
		amor	10	( \$ G.	s Inc		206	Veill	
OMPANY	PIII	amon	0 0	1 9 1/2	3 Inc	BY	The W	Mark	
ADDRESS					faller des series s			the reverse of this o	
	Competition	ITEM	es is requeste	ed to perform the	following services a	ccording to the te		ORMATION	order.
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	ည္ Loggin	g unit	@	per mile per mile per mile		4.5"	9.54	Surface	3540
	Pickup	-	@	per mile		4			
ania (1)		rane	<u> </u>	per mile					
Service 46 Depth	50 Pc	147 C	18/1	t dother		Fluid		Level (surf)	
per.	9.	shot 6		ot cha				are from (check	
460	45 GL	in Borr	21204						Prev. Logs X
Service						CWS TD _	496	Driller TD _	
epth						'lug model _		Size	Depth
oper.			A CONTRACTOR OF THE CONTRACTOR			acker _		Size	Depth
Corvino							PEF	REFORATIONS	
Service Depth						Inter			PF Total #
oper.						3440-	3442	(2)	
Service								RE	CEIVED
Depth									
Oper.								MA	Y 29 2008
Service								MONTAN	A BOARD OF OIL
Depth								a GAS (	OMS. BALINGS
Oper.									
						TOTAL PER	RFORATIONS	s: 9 Tital	19 gram
Service								Prospi	ctal
Depth						AFE #:	5-078-	21830	
Oper.				-		Remarks:		21030	
Service				•		Remarks			
Depth						//		,	
Oper.							111	1 1/1	66 1
	EQI	JIPMENT, RE	NTALS, PER	RSONNEL		LF	n'. 10	May come	51 10
4592	Porse	ce Conta	1/00	1 off			1	1/1/	Fis 18 34-1
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		MAT	ERIALS					677	
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4518	EHB	01	arge						
			o fi	eld total					
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			Othe		<u> </u>	Vitnessed by	11	1 1	lagan
				AL CHARGES s Tax		competition \	ws Sto		IICS D
				AL CHARGES				(Please Print)	
Original - Plea	ase pay from	this invoice - Du			Ŀ				

529	2-08 (406)652-4400 COM	PETITIO UMB SERVICES		69 Niehenke lings, Montar		Stelbyr
	562 LEASE/LOCATION	UFIED	34-1			
E	Montana county Ro	nekra	LEGAL 🍒	ESES	SW 34	2911-6
ATION 40	77 KB ELEVATION 4076	ORILLER TO 35	40 FIELD	Filele	cets /	7
PETITION PER	CCILIT I					Cut Box
		•	10,00	A	10 1	
PANY	Attament Oil BGC	>	BY	CIE	love	
RESS		-				
Cor	mpetition Wireline Services is requested to perform the ITEM	ne following services a	ccording to the terr		ORMATION	rder.
501	SERVICE CHARGE: Truck	_	Casing	Lb/Ft	From	То
	SERVICE CHARGE:	_	フ゛	17# .	Sufface	675
ag	Logging unit@per mil		4.5"	9.5#	Surfece	35401
Milea	Logging unit		-			
ce 4650	Perfocate W31/9HPSic	<del></del>	A-1	1126-		1201
.200	3446 soth che	L	Fluid 11/			130
	17 shot @min shot che	_			are from (check of	One): Prev. Logs 🔀
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e		-				
-	REC	CEIVED			Size	
		The second second second	Packer		Size	Depth
e	JU	N 0 4 2008		PER	REFORATIONS	
-	MONTAN	A BOARD OF OIL	Interv	als	SF	
-	& GAS C	ONS BILLINGS	3742°3	440	(4) 4	17
e		+				
					Section 2	
ce						
			TOTAL PER	EODATIONS	17 1	tan 199
ce			TOTAL PER	FURATIONS	A	spete
			AFE #:	20 11-	20.0.	7
\			APIA	15-01	3-21830	
	<del></del>	+	Remarks:			
ce					The second	
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CC-7 0	ressure Control / Pack Of	_	-/	1/0	1/6:1	12 F
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518 E	HBS Charge			Ind i	Lue ,	
	Allege 80 miles HBS Charge Field total	<u>'</u>				
		-				
	Sub total		A/II-	Pote	el Most	6 Mm
	Other TOTAL CHARGES	s	Vitnessed by: Competition W	70	mil	Let.
	Sales Tax		Joinpelluon W		(Please Print)	II V
	TOTAL CHARGES	3			(	
inal - Please p	pay from this invoice - Due 30 days from above date.	•		040		

Date _	5-	16-	08	<b>-</b> (406)652-4400	COM	PETITIC	7	069 Niehenke Billings, Monta	e Ave. ana 59101	MAY 28	ARD OF OIL
INVOIC	e# 1	45	57 LEASE	/LOCATION	50	du Fiz	(c) 34	1- (	8. C	as oons	. BILLINGS
STATE	_/	Mo	intana	COU	NTY POP	dera	LEGAL	SE SE	554-	28N	-6W
ELEVAT							40 FIELD			17	
COMPE				Seife	rt, J	Brow		1	1	5 Cut	Bank
СОМРА	NY		Altan	ront 0	1186a	s, Inc	BY	Tu as	100		/
ADDRE	ss										
		Comp	etition Wireline	Services is request	ed to perform th	AMOUNT	according to the te		the reverse of		
45	- 1			RGE: Tru		-	Casing	Lb/Ft	From		To 575'
		e Lo	ogging unit	RGE: 	per mile	- e	4.5"	9.5#	Sucha		540
		iea iea	ckup	@	per mile	е					0
		≥ M	ast/crane	@	per mile	9					
Service	45	36	Simulan	ious Game	rakay	_	Fluid Lk:	tor.		1270	. \
Depth			3496			_	Competition -		Level (surf)	1210	)
Oper.			mino	peration	cha	_	Competition m				1 -
	9 ,	201	1		7	-			GL		Logs
Service	45	38		a Cement	Bond log	-	CWS TD _3	716	Driller	TD 33	90
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Oper.			min she	t charge		-	3428 -	3472	(4)	SPF 4	Total #
	464	5	Gun Bo	rrel 4		-	2 1010	/ / 3/3			-
Service						-	-				
Depth						_					1 1 1 1
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Service						-	-				
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Corvina			1	1 / 12/2	2 (2)	1	TOTAL PER	FORATIONS	177	tan19	gran
Service			-16-	Captor	1000	100			Pro	OSPECT	8
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opei.				0	^	1/\	APE#25-	015-2	1830		
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75	12	705	surz Cont	<b>₹</b>	CFF		: <del></del>				
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				Sub to	otal			<i>a</i> .		, .	
				Other			Vitnessed by:	Potrice	Mor	talla	n
					L CHARGES		Competition W	s Star	buchs	eitert	-
				Sales					(Please Pr		
				TOTAL	LCHARGES	L					

Original - Please pay from this invoice - Due 30 days from above date.

6-6-11

Sales Tax

**TOTAL CHARGES** 

Mow-Jody Forder 34-1

Original - Please pay from this invoice - Due 30 days from above date.

Submit In Quadruplicate To:

**BILLINGS, MONTANA 59102** 

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1306, 1309, and 1417

MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE

SEP 0 6 20'

S	UNDRY NOTICES A	AND REPO	RT OF WELLS	BILL
Operator MOUNTAIN VIEW EN	ERGY, INC	*	Lease Name: JODY FIELD	
Address PO BOX 200			Type (Private/State/Federal/Tribal/Allotted):	
City CUT BANK State I	MT Zip Code 5942	7	PRIVATE	
Telephone 406-873-2235	Fax 406-873-283		Well Number: 34-2	
Location of well (1/4-1/4 section and NENWSSW-SECTION 34-T29N-R6W	d footage measurements):	,	Unit Agreement Name:	
(2310' FSL - 990' FWL)			Field Name or Wildcat: LONEMAN COULEE	
API Number:	Well Type (oil, gas, inje	ction other):	Township, Range, and Section: SECTION 34-T29N-R6W	
25   073   21838 State County Well	INJECTION		County: PONDERA	
Indicate below with an X the nature	of this notice, report, or oth	ner data:		
Notice of Intention to Change Plans Notice of Intention to Run Mechanic Notice of Intention to Stimulate or to Notice of Intention to Perforate or to Notice of Intention to Abandon Wel Notice of Intention to Pull or Alter C Notice of Intention to Change Well Supplemental Well History Other (specify)  Describe planned or completed work in necessary. Indicate the intended starting	cal Integrity Test c Chemically Treat c Cement asing Status  Describe Proposed detail. Attach maps, well-bord	Subseque Subseque Subseque Subseque Subseque Subseque Subseque CONVER	agrams, analyses, or other information as	
Well hooked up and commenced injection			ion date for completed operations.	
		The unde	rsigned hereby certifies that the information contained cation is true and correct:	i on

9/1/2011

Telephone:

Signed (Agent)

(406) 873-2235

Joseph P. Montalban, V.P. of Operations

Print Name and Title

**BOARD USE ONLY** 

Title

SEP 0 6 2011

Date

Original Signed By

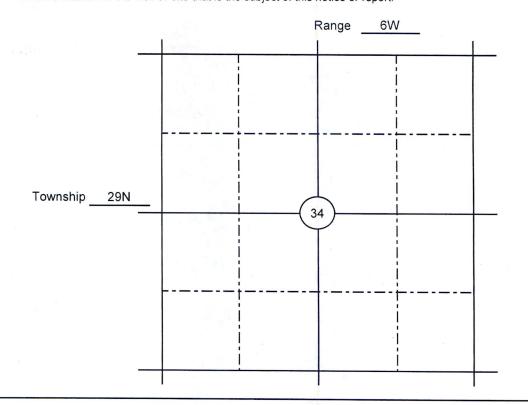
George Hudak, UIC Director

Name

Approved

#### SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request. Plot the location of the well or site that is the subject of this notice or report.



#### **BOARD USE ONLY**

#### **CONDITIONS OF APPROVAL**

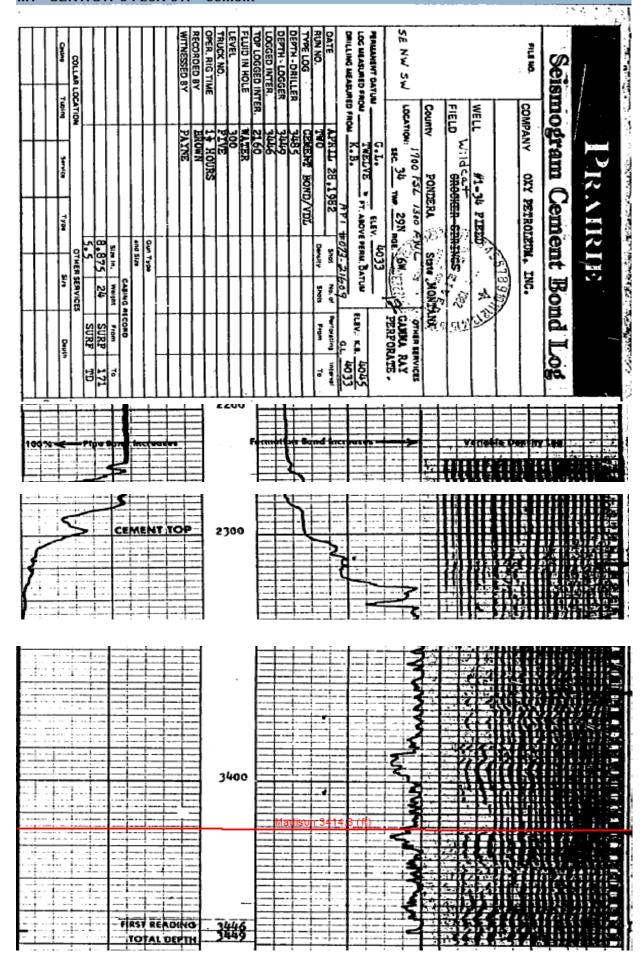
The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

#### **Privileged and Confidential**

#### **EXHIBIT B**

Well Records for Jody Field 14-34 and Jody Field 4-1A



LOCATE WELL CORRECTLY

34 0

# (SUBMIT IN TRIPLICATE) TO

# BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA BILLINGS OR SHELBY

# ARM 36.22.307 ARM 36.22.1011 ARM 36.22.1013

# COMPLETION REPORT

Company A	ALTAMONT	OIL & GAS,	INC	Leas	eFIEI	LD		We	ell No. 14-34
AddressP	0 вох 48	88 - CUT BA	NK MT	59427	Fi	eld (or	Area) WI	LDCAT	
The well is	located_9	90' ft. fro	斌 n (S) lin	e and 165	0'_ft. fi	XEX rom (W)	line of Sec	34	
Sec. 34	·T 29	)N : R. 6	₩: Co1	untyPO	NDERA			_; Elevation	4049 GL (D.F., R.B. or G.L.)
							*		
Commence	d drilling_	August 27	, 2008	, K	MA_; CO	mpiete	n Augu	7 1	, <b>x9</b> X
Write the A	PI# or the	e well name	of anoth	er well on	this lea	se ii on	efthorus!! T	he cummary	on this page is for
The info	ormation g on of the v	given herewit well at the ab	h is a cor ove date	mplete and e.	correct	record	of the well. I	The summary	on this page is for
Completed	as OII	WELL			Signe	d	Raddel ICK M. MON	PAT DAN	
API#25- C	(oil well,	gas well, dry noie			Title	PRES	IDENT & CE	O CALBAN	
AP1# 25	773- 2179	+0							
					Date .	SEPTI	EMBER 14,	2009	
			IMPO	RTANT ZO	ONES OF	PORO	SITY	1	
240	2	(denote oil	by O, ga	s by G, wat	ter by W	; state	formation if	known)	
17	to	3415 - 0 &		0000	From		to		
From	to				. From.		to		<del></del>
From	to				From		to		
				CASIN	G RECO	RD			
Size	Weight	_		Casin	r Cot	From	То	Sack of Cement	Cut and Pulled from
Casing 7"	Per Ft. 17#/ft	Grade LTD	Thread ST&C		' KB	0	161'		Class G Cement
4-1/2	9.5#/1	ft API	ST&C	340	5' KB	161'	3405'	50 Sacks	3% CaC1 Class G Cement
				TUBIN	G RECO	RD			
	Size Tubin		ght Ft.	Grade	Thre	ad	Amount	Perforations	
	2-3/8			J55	ST&C		108 jts	None	
				COMPLE	TION RE	CORD			
Rotary tool	s were us	ed from	0				to3,	415	
Cable tools	were use	d from					to		to 3,415'
Total depth	3,413	_ft.; Plugged	Dack to	)	1.D.;	Open i	iole ironi		.0
to the second se	PERFO	RATIONS	~			ACIDIZED	, SHOT, SAND F	RACED, CEMENTI	ED
Inter		Number ar	nd	Inte	rval		Amount of Material Use		
From	То	Size and Ty	/pe	From	То		Material Ose	<u> </u>	Pressure
		None					None		
						-			
	1		N/8 1095-74		V		(If P&A show plu	gs above)	
				INITIAL	PRODUC	CTION			
		3.F.; 3.4	. / C D				W. C.		
Well is prod	ducing fro	m Madison	i/ Suii K	TAGE	(po	ool) for	mation.		
<b>I.P.</b> 5	ba	arrels of oil p	er	24 ho	ours	· · · · ·	or flowing)		
		1000 MATERIA				(pumping	or nowing)		
X <del>XXX</del>	_Mcf of gas pe	erho		s of water per_	24	_hours, or	r% `	w.C.	

A COLUMN TO THE OWNER OF THE OWNER OWNER OF THE OWNER OWN		C	asing	p	si flowing	g;			psi shut-i psi shut-i
ravity_		° API (c	corrected to 6	60° F.)					
		220 0				744			
							Average Connat	e water	·
ype of	trap			······································					
roduci	ing mecha	nism							
				DRILL	STEM T	ESTS	4		
D.S.T. No.	From	То	Tool Open (Min.)	Shut-In	F.P.	S.I.P.	Reco	overy	Cushion
		NONE							
					Cappananan son				
							<u></u>		
No.		COR	Recove				Type	RUNS	То
NO.	Intern	/ai	Recove	red		GAMMA F	RAY CCL LOG		1
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					L	Marine		and the second	
					TION RE				
rom	То				FORMATION		Wagner Committee Committee Committee Committee Committee Committee Committee Committee Committee Committee Com		Top of Formati
		SEE	ATTACHED						

# Tops based on Kelly Busing Elevation 4054' KB:

+2290
+2252
+2192
+2043
+1935
+1700
+1656
+1533
+1490
+ 975
+ 938
+ 890
+ 817
+ 763
+ 683
+ 652
+ 639
+2192 +2043 +1935 +1700 +1656 +1533 +1490 + 975 + 938 + 890 + 817 + 763 + 683 + 652

#### OPERATIONAL SUMMARY

and

#### GEOLOGICAL WELL HISTORY

Altamont Oil and Gas Inc. Altamont/Jody Field No. 14-34 SESW Section 34-T29N-R6W (990' FSL – 1650'FWL) Glacier County, Montana API No. 25-073-21740

Wildcat

Patrick M. Montalban Petroleum Geologist P.O. Box 488 Cut Bank, Montana 59427

#### Resume

Spud Date:

August 27, 2008 August 30, 2008

Completion Date: Status:

Madison Sun River Dolomite "Wildcat

Oil Well Discovery"

Eleavtion:

4049'GR. 4054'KB.

Total Depth:

3415' Driller

Casing:

Ran 4 joints 7",17#/ft,ltd,8rd,ST&C,Rge 3 (164.0") set@161.0KB cemented with 50sx

Class G cement,3%Calcium Chloride

Ran 83 joints 4 1/2",9.5#/ft,8rd,ST&C,Rge 3

(3412') set @3405' KB cemented with

50 sx Class G

Contractor:

Sundance Exploration LLC Rig No.5 Ingersoll- Rand (Tophead Drive)

Type Rig:

Oilwell 214P (6" x 14")

Mud Pump:

Ingersoll- Rand (1250mmcf 350psi)

Air Compressor: Air Program:

Surface to 3415'

Mud Program:

None

Hole Size:

8 3/4" (0-165') 6 ½"(165' – 3415 ') 4 1/2" O.D. x 4" I.D. (16.60 #/ft.)

Size Drill Pipe:

4 <sup>3</sup>/<sub>4</sub>"O.D. x 2 1/8" I.D.(121')

Size Drill Collars: No. Drill Collars:

4 = 121

Sample Intervals:

None None

Sample Quality:

None

Cores:

None

Drill Stem Tests:

None

Air Drilling Summary
Drilled 3 7/8" hole with air mist from surface to 3415'.

#### Sample Distribution

None Required by the Montana Oil and Gas Conservation Commission, 2535 St. Johns Ave., Billings Montana in accordance with Rule No. 229

Logging Summary
No Logs Run.

#### Mud Summary None

				Bit Reco	<u>rd</u>			
No.	Size	Make	Type	Interval	Footage	Hours	Jet Size	Serial No.
		HTC	STX-20	0 - 77	77	3.00	open	ER8776
2	3 7/8"	HTC	ER-20	77-3415	3338	18.75	open	none

#### Daily Activity Summary (Calendar Days)

August 27,2008

Moved in and Rigged up Sundance Exploration LLC Rig No. 2. Spud 6 ¼" hole at 11:45A.M. Drilled 6 ¼" hole with air mist from 0' to 77' inside 7" surface casing. Drillled 3 7/8" hole with air mist inside the 4 ½" casing. Lower camera inside 7" casing. Trip tubing into the hole and place 2 gallons of 28% Hcl inside 4 ½" casing. Lower camera inside 7" casing and concluded 4 ½" casing to be clean.

August 28,2008

T.D. 77'. Load 4 ½" casing. Unload and strap 4 ½" casing. unload 2 3/8" tubing. Rig up 7" x 4 ½" wellhead. Trip In 4 ½" casing and sting into casing. Pulled 5000#/s on 4 ½" casing and set in slips. Nipple up diverter head. Drilled 3 7/8" hole with air mist from 77' to 2400'.

August 29,2008

Drilled 3 7/8" hole with air mist from 2400' to 3415'. Total Depth 3415' by operator. Repair rig.

August 30,2008

T.D. 3415. Start and warm rig. Blow well down and recovered highly oil cut water. Set tubing in slips. Rigged down. Report Ends.

	ervices	Other Services			
					3
	Record	Tubing Record			18.2
					AFE Number
				25-073-21740	API Number
				****	Jement lime
1				3.875"	DIISIZE #Z
	Surface	9.5#	4.50"	6.250"	Jita #1
	Surface	17.0#	7.00"	15637	Difference INO.
To	From	Weight	Size	JOHN BROWN	nvoice No
	Record	Casing		TALKICK MONIALBAN	Perorded By
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@		lo	From	1115 CHT DANK BAT	Equipment No
(9)		10	riom	O Bel	Wellhead PSI
(8)		10		****	Level
@		10			Fluid in Hole
(6)		7 2	From	1200'	Top Interval
		To .	From	3401'	Bottom Interval
9		To	From	3403'	Depth - Logger
9		То	From	3415	Depth - Dillel
			Size	GAMMA RAY/CCL	Donth Dellas
			Gun Type	ONE	OG TWO
(1895)	Perforated Intervals	Perforate		00-UC TOBER-2008	Rim Nilmbor
				OS COTORED SOS	Date
K.B. 4054' G.L 4049'	4033' DATUM	=L Elevation OVE PERM.   JG	FIVE FEET ABOVE PERM. DATUM KELLY BUSHING	Log Measured From Drilling Measured From	Compa Well Field County State
Elevation		- 1	CBOINDIDA	Permanent Datum	
		RGE 6W	TWP. 28N	SEC. 34	Ali Wi Po
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Jan Carlotte	20		CAT	Field WILDCAT	Ga: Fiel
4-34	LD #1	DY FIE	ALIAMONT/JODY FIELD #14-34	Well ALIA	s, In d #1
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nterpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or extness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

ient Type:

elated to: Logged From Kelly Bushing Measurement.

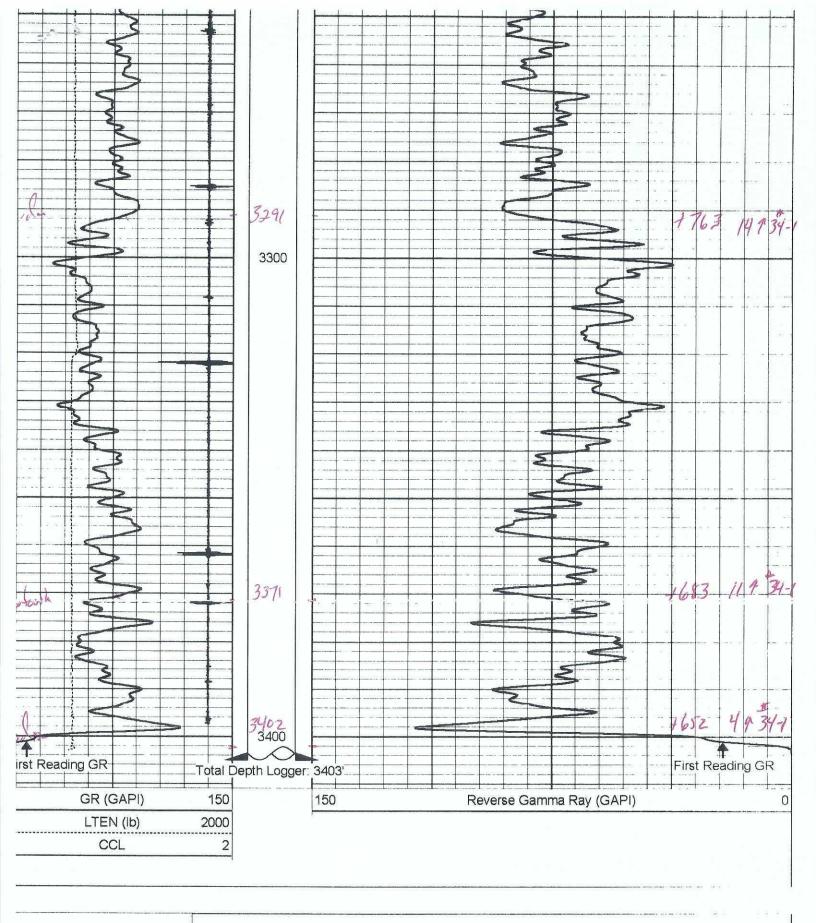
iarks:

THANK YOU FOR CHOOSING COMPETITION WIRELINE SERVICES.

YOUR CREW TODAY HAS BEEN: STARBUCK SEIFERT & AARON BROWN

MORTITIAN

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# Repeat Section

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#### OPERATIONAL SUMMARY

and

#### GEOLOGICAL WELL HISTORY

Altamont Oil and Gas Inc. Altamont/Jody Field No. 4-1A NENENE Section 4-T28N-R6W (330' FNL – 380'FEL) Glacier County, Montana API No. 25-073-21842

Wildcat

Patrick M. Montalban Petroleum Geologist P.O. Box 488 Cut Bank, Montana 59427

#### Resume

Spud Date:

Completion Date:

Status:

Eleavtion:

Total Depth:

Casing:

Contractor:

Type Rig: Mud Pump: Air Compressor:

Air Program:

Mud Program:

Hole Size: Size Drill Pipe:

Size Drill Collars:

No. Drill Collars:

Sample Intervals:

Sample Quality: Cores:

Drill Stem Tests:

May 18, 2009

May 23, 2009

Madison Sun River Dolomite "Wildcat

Oil Well Discovery"

4070'GR. 4075'KB.

3442' Driller 3462' Driller (Completion) Ran 17 joints 7",17#/ft,ltd,8rd,ST&C,Rge 3

(729.17) set@726.67KB cemented with 160sx Class G cement, 3% Calcium Chloride, 3% Calcium

chloride, 1/2# flocelle.

Ran 85 joints 4 1/2",10.5#/ft,8rd,ST&C,Rge 3 (3442.91') set @3440.91' KB cemented with

60 sx Class G, 2% CaCO3 GaSco Drilling LLC Rig No.7

Atlas Copco RD20 (Tophead Drive) Gardner Denver FXK (6" x 14") Atlas Copco (1250mmcf 350psi)

Surface to 3442'

3442

8 3/4" (0-730') 6 1/4"(730' - 3442 ') 3 1/2" O.D. x 2 1/2" I.D. (13.30 #/ft.) 4 <sup>3</sup>/<sub>4</sub>"O.D. x 2 1/8" I.D.(353') Weight Pipe =

4 ½"O.D. x 2"I.D.(16.60#/ft.)(120')

13 = 354

30'(1950'- 2310')(2560' - 2980')

10'(1700'-1950')(2310'-2560')(2980'-3442')

Good None

None

#### Air Drilling Summary

Drilled 8 3/4" hole with air (mist) from 37' to 730'. Did not show strong flow of water through the drlling of the surface hole. Drilled 6 1/4" hole with air from 730' to 3442'. No gas was encountered. Total depth 3442' by driller with air. Converted to mud drilling program at 3442'.

### Sample Distribution

None Required by the Montana Oil and Gas Conservation Commission, 2535 St. Johns Ave., Billings Montana in accordance with Rule No. 229

Logging Summary
No Logs were run.

## Mud Summary

Max Gel -17sx

Plat Pac UL – 8 - 5gallons

Bit Record

No.	Size	Make	Type	Interval	Footage	Hours	Jet Size	Serial No.
1	8 3/4"	STC	CH-14	0 - 730	730	18.00	open	225925
2	6 1/4"	HTC	STX-20	730-3442	2712	28.00	open	5123271
3	3 7/8"	Varel	DW531	3442-3462	20	1.0	reg	1016538

#### Vertical Surveys

<u>Depth</u>	<u>Degrees</u>
251'	1/4*
730'	1/4*
1305'	1/2*
1970'	1/2*
2540'	1/2*
3272'	1/2*

## Sample Formation Tops

Cretaceous	Depth	<u>Datum</u>
Colorado		
Two Medicine		
Blackleaf	1786	+2289
Blackleaf Bentonite Marker	1825	+2250
Blackleaf Sandstone	1830	+2245
Base Fish Scales	Section 2	
1 <sup>st</sup> Bow Island	1884	+2191
2 <sup>nd</sup> Bow Island	2026	+2049
3 <sup>rd</sup> Bow Island	2134	+1941
4 <sup>th</sup> Bow Island "A"	2367	+1708
4 <sup>th</sup> Bow Island "B"	2413	+1662
Dakota	2539	+1536
Kootenai	2582	+1493
Sunburst	3079	+996
Jurassic		
Morrison	3135	+940
Swift	3208	+867
Rierdon(Ellis Shale)	3331	+744
Sawtooth	3416	+659
N. P P L L		
<u>Mississippian</u>		
Madison(Sun River Dolomite)		
Total Depth:	3542	+633

#### Daily Activity Summary (Calendar Days)

May 18,2009 Moved in and Rigged up Gasco Drilling LLC Rig No. 7 Spud 8 3/4" hole at 11:00A.M. Drilled 8 3/4" surface hole from 0' to 37'. Drive 9 5/8" casing set @ 16.00' set @ 17'.

Repair upper radiator hose. Nipple up deflector head. Drillled 8 3/4" surface hole with air mist from 37' to 446'.

May 19,2009 Drilled 8 3/4" surface hole with air mist from 446 to 730'.

Total Depth 730' by Driller. Condition hole for surface casing.Ran 17 joints 7",17#/ft,Ltd,8rd,ST&C,(729.79)set @ 728.79'KB cemented with 160 sacks Class G cement + 3% Calcium Chloride,1/2#/sack focelle. Good returns to surface.

Plug down at 2:00 P.M. W.O.C. Nipple up BOP.

May 20,2009 Trip in hole with 6 1/4" bit. Clean and dry hole. Drilled cement plug

and dry hole.Ran survey. Dry hole. Drilled out @ 2:30A.M..

Drilled 6 1/4" hole with air from 730' to 2881'.

May 21,2009 Drilled 6 1/4" hole with air from 2881' to 3442'.

Total depth 3442' by driller.

Total depth by driller with air. Did not encounter any moisture.

Converted to drilling mud @ 7:00A.M.

Condition hole for 4 1/2" production casing. Short trip. Condition

hole for 4 ½" production easing. Trip out of hole for 4 ½"

Production casing. Rig up to run production casing.

May 22, 2009 Ran 85 joints 4 ½",9.5#/ft,API.,J55,8rd,ST&C,Rge 3

(3442.91') set @ 3440.91'. Lower viscosity to 40. Cemented Well with 60 sacks Class G cement with 2% calcium chloride.

Plug down @1:30A.M.. Set 4 1/2" casing in the

Slips.Report Ends.

May 23, 2009 T.D. Nipple up BOP. Pick up 2 3/8" tubing. Tagged plug at 3418'.

Mist up to drill out 4 ½" plug. Drilled 3 7/8" hole with air mist from 3442'to 3460'. Test well, no show of oil or water. Drilled 3 7/8" Hole with air mist from 3460' to 3462'. Shut in for 1 ½ hr. No show, no oil,no water,no odor. Note Driller Total Depth 3468'.

Last 5' run in with no rotation or weight. Rig down.

#### Lithology

Sample descriptions begin at 1700', in the Cretaceous Colorado. Sample descriptions are not corrected for drill time lag. Formation tops were determined from electric logs. Samples were examined and described wet except for the samples in the Mississippian Madison Sun River Dolomite that were described dry.

#### SAMPLES CAUGHT IN 10' INTERVAL:

- 1700 1710 Shale,dk grey,chunky,firm,dense,noncalcareous,earthy textured,gritty in parts.
- 1710 1720 same as above.
- 1720 1730 Shale, grey, chunky, firm, dense, noncalcareous, earthy textured to gritty textured, sandy in parts.
- 1730 1740 Shale,grey,chunky,platy,firm,dense,nncalcareous,earthy textured, micromicaceous. Bentonite,tan,soft,lumpy.
- 1740 1750 same as above. Bentonite, tan, white, soft, lumpy.
- 1750 1760 Shale, grey, chunky, platy, firm, dense, noncalcaroeus, earthy textured, micromicaeous.
- 1760 1770 same as above.
- 1770 1780 Shale, grey, chunky, firm to hard, dense, noncalcareous, earthy textured, microcmicaceous.

#### 1786 - Sample Top - Blackleaf

1780 – 1790 Shale,dk greyish black,chunky,blocky,firm to hard,dense,very calcareous,

#### many tan specks.

1790 - 1800 Shale as above.

1800 - 1810	Shale,dk grey,chunky,blocky,firm to hard,dense,very calcareous,
	earthy textured, many tan specks.

1810 - 1820 same as above.

#### 1825 – Sample Top – Blackleaf Bentonite

1820 – 1830 Shale, dk grey, chunky firm, dense, calcareous, earthy textured.

#### 1830 - Sample Top - Blackleaf Sandstone

- 1830 1840 Shale, grey, chunky, firm, dense, noncalcareous, earthy textured, Bentonite, white, soft, lumpy, micromicaceous.
- 1840 1850 Shale as above.
- 1850 1860 Shale, grey, chunky, firm, dense, noncalcareous, earthy to gritty textured. Siltstone, grey, blocky, hard, dense, noncalcareous, tight.
- 1860 1870 Sandstone, grey, very fine to fine grained, subrounded to subangular, Moderately sorted quartzose, many clear and grey grains,
- 1870 1880 Shale,dk grey,chunky,firm,dense,noncalcareous,earthy textured, many unconsolidated grains in sample pan. Siltstone,grey,blocky,hard, dense,noncalcaeous,tight.

#### 1884 - Sample Top - 1st Bow Island

- 1880 1890 Many unconsolidated grains in sample pan.Sandstone,dk grey,very fine grained,rounded,well sorted quartzose.Bentonite,tan,soft, lumpy.
- 1890 1900 same as above.
- 1900 1910 Siltsone, grey, blocky, hard, dense, noncalcareous, tight

- 1910 1920 Shale, grey, chunky, firm, dense, noncal careous, earthy to gritty textured. Siltsone as above. Unconsolidated grains in sample pan.
- 1920 1930 Bentonite,tan,white,soft,waxy,lumpy,micromicaceous.Shale,dk grey Chunky,hard,dense,noncalcareous,earthy textured.
- 1930 1940 Shale, grey, chunky, firm, dense, noncalcareous, earthy textured.
- 1940 1950 Bentonite,tan,soft,lumpy.Many unconsolidated grains in sample pan.

#### Begin 30' Samples

- 1950 1980 Sandstone, grey, very fine grained, rounded, well sorted quartzose, many clear and grey grains, trace glauconite grains.
- 1980 2010 Bentonite,tan,soft,lumpy.Shale,greenish grey,chunky,firm,dense, noncalcareous,gritty textured.Siltstone,greenish grey,blocky,hard,dense noncalcareous,tight.

#### 2026 - Sample Top - 2<sup>nd</sup> Bow Island

- 2010 2040 Sandstone, grey, very fine to fine grained, rounded to subrounded, well sorted quartzose, many clear grains, few black chert grains, few glauconite grains.
- 2040 2070 Shale, choclate brown, chunky, firm to hard, dense, waxy textured, trace orange zeolites. Bentonite, tan, soft, lumpy
- 2070 2100 Shale,lt green,chunky,firm,dense,noncalcareous,waxy textured. Much Bentonite,tan,soft,lumpy.
- 2100 2130 Sandstone, greenish grey, very fine to medium grained, coarse grained in parts, subrounded to angular, poorly sorted quartzose, many clear grains, trace black chert grains, trace glauconite grains.

### 2134 - Sample Top - 3<sup>rd</sup> Bow Island

2130 – 2160 Sandstone, brownish white, very fine grained, rounded, well sorted quartzose, many clear and grey grains.

- 2160 2190 Shale, black, chunky, firm, dense, noncalcareous, waxy textured.
- 2190 2220 Bentonite,ten,soft,lumpy,micromicaeous, Shale,lt green,chunky, Soft,dense,noncalcareous,waxy textured.
- 2220 2250 Shale,green,grey,chunky,soft to firm,dense,noncalcareous,earthy to waxy many orange zeolites.Textured. Bentonite,tan,soft,lumpy.
- 2250 2280 Bentonite,tan,soft,lumpy. Sandstone,brown,very fine grained,rounded, well sorted quartzose.
- 2280 2310 Shale, grey, chunky, soft to firm, dense, noncalcareous, earthy to gritty Textured. Bentonite, tan, soft, lumpy.

#### Resume 10' Samples

- 2310 2320 Shale,dk grey,chunky,firm,dense,noncalcareous,earthy to gritty textured. Bentonite,tan,soft,lumpy.
- 2320 2330 Bentonite, tan, soft, lumpy. Shale as above.
- 2330 2340 Sandstone,dk grey,very fine grained,well sorted,rounded quartzose many unconsolidated grains in sample pan,many clear and grey grains, trace glauconite grains. Bentonite,tan soft,lumpy. Shale,dk grey,chunky firm,dense noncalcareous,gritty textured.
- 2340 2350 Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
- 2350 2360 same as above.

#### 2367 - Sample Top - 4<sup>th</sup> Bow Island "A" Sandstone

2360 – 2370 Sandstone, grey, very fine to fine, rounded to subrounded, moderately sorted quartzose, noncalcareous, many clear grains, few black chert grains, few glauconite grains.

2370 – 2380	Sandstone, grey, very fine grained, rounded, well sorted quartzose Many clear grains, many grey grain, few glauconite grains.
2380 - 2390	same as above.
2390 – 2400	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured bentonite,tan,soft,lumpy. Many unconsolidated grains in sample pan.
2400 – 2410	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured sandy in parts. Bentonite,tan,soft,lumpy.
2413 – Sampl	e Top – 4 <sup>th</sup> Bow Island "B" Sandstone
2410 – 2420	Sandstone, grey, very fine grained, rounded, well sorted quartzose, many clear and grey grains, few glauconite grains.
2420 – 2430	same as above becoming slightly coarser grained, very bentonitic.
2430 – 2440	Sandstone,dk grey,very fine grained,rounded to subrounded,well sorted quartzose,many grey grains,few glauconite grains,bentonitic.
2440 – 2450	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty to sandy textured. Many unconsolidated grains in sample pan.
2450 – 2460	Shale,grey,chunky,soft to firm,dense,noncalcareous,gritty textured unconsolidated grains in sample pan.
2460 – 2470	same as above. Bentonite,tan,soft,lumpy.
2470 – 2480	Shale,dk grey,grey,chunky,firm,dense,noncalcareous,earthy textured, Bentonitic.
2480 – 2490	Shale,grey,chunky,soft to firm,dense,noncalcareous,earthy textured, Micromicaceous.

2490 - 2500	same as above. Many unconsolidated grains in sample pan.
2500 – 2510	Shale,grey,dk grey,chunky,firm,dense,noncalcareous,earthy to gritty textured. Bentonite,tan,soft,lumpy.
2510 – 2520	Sandstone, grey, very fine grained, rounded, well sorted quartzose Many clear and grey grains, few glauconite grain, bentonitic.
2520 – 2530	Many unconsolidated grains in sample pan. Shale,grey,chunky, firm,dense,noncalcareous,gritty textured. Sandstone as above.
2539 – Sample	e Top - Dakota
2530 – 2540	Shale,grey,chunky,firm,dense,noncalcareous,earthy textured, micromicaceous.Bentonite,tan,soft,lumpy.
2540 – 2550	Sandstone, lt grey, very fine grained, rounded, well sorted quartzose many clear grains few grey grains.
2550 – 2560	Sandstone, clear, very fine grained, rounded to subangular, well sorted Quartzose, many clear grains, few grey chert grains, bentonitic.
Resume 30' S	<u>amples</u>
<u> 2582 – Sampl</u>	e Top - Kootenai
2560 – 2590	Sandstone, brown, very fine to medium grained, rounded to subangular Moderately sorted quartzose, many unconsolidated

grains.Bentonite,tan,soft.

gritty textured.

2590 - 2620 Shale, grey, chunky, firm, dense, noncal careous, earthy to

2620 – 2650	Sandstone, grey, very fine to fine grained, rounded to subrounded, well to moderately sorted quartzose, many clear grains, many grey shale inclusions many black chert grains.
2650 – 2680	Sandstone, grayish white, very fine to fine grained, rounded to subangular, moderately sorted quartzose, many clear grains, many grey and black grains.
2680 – 2710	Shale, brick red, green, lt green, chunky, soft to firm, dense, noncalcareous, earthy to gritty textured.
2710 – 2740	Sandstone, green, lt green, very fine grained, rounded, well sorted quartzose many unconsolidated grains, many clear grains, orange shale as above. Shale green, chunky, firm, dense, noncalcareous, gritty textured.
2740 – 2770	Shale,grey,chunky,platy,firm,dense,noncalcareous,earthy textured. Bentonite,tan,soft,lumpy.
2770 – 2800	Sandstone, green, lt green, very fine to fine, rounded to subrounded, well sorted quartzose, many clear and frosted grains, many glauconite grains.
2800 – 2830	Shale,green,chunky,firm,dense,noncalcareous,earthy textured,smooth. shale,grey,chunky,firm,dense,noncalcareous,earthy textured.
2830 – 2860	Shale, brick red, maroon, green, grey, chunky, firm, dense, noncalcareous, gritty textured. Bentonite, white, soft waxy.
2860 – 2890	Shale,multicolored,green,brick red,grey,reddish brown,maroon,chunky, soft to firm,dense,noncalcareous,earthy textured.
2890 – 2920	Sandstone, grey, very fine to fine grained, rounded to subangular, moderately Sorted quartzose, many clear grains, many grey grains, many amber grains, Bentonitic.

Bentonitic, tan, soft, lumpy. 2950 - 2980Shale, brick red, chunky, soft to firm, dense, noncalcareous, gritty textured. turns sample bag bick red. Begin 10' Samples Shale, brown, brick red, chunky, firm, dense, noncalcareous, earthy to gritty 2980 - 2990textured. 2990 - 3000Shale, green, chunky, soft to firm, dense, noncalcareous, gritty textured, sandy in parts. Bentonite,tan,soft,lumpy. 3000 - 3010Shale, grey, chunky, platy, soft to firm, dense, noncalcareous, gritty textured. Shale, multicolored, green, grey, brick red, brown, reddish brown, maroon, 3010 - 3020chunky, firm, dense, noncalcareous, earthy textured, motteled in parts. Sandstone, grey, very fine grained, rounded to subrounded, well 3020 - 3030sorted quartzose, many clear grains, many black shale inclusions, trace green grains, trace amber grains. 3030 - 3040Sandstone, grayish white, very fine grained, rounded, well sorted quartzose, many clear grains, trace black and grey shale inclusions, trace amber grains. 3040 - 3050Shale, multicolored, brick red, green, grey, brown, maroon, chunky, soft to firm, dense, motteled, noncalcareous, earthy textured, motteled. 3050 - 3060Shale, brick red, grey, green, chunky, firm, dense, noncal careous, earthy textured, smooth.

Shale, lt. grey, chunky, blocky, firm, dense, noncalcareous, waxy

Sandstone, dk brown, very fine grained, rounded, well sorted quartzose,

2920 - 2950

3060 - 3070

ttextured.

#### 3079 - Sample Top - Sunburst

- 3070 3080 Shale,mustard yellow,grey,chunky,firm,dense,noncalcareous, Earthy to gritty textured. Many unconsolidated grains in sample pan,very fine grained.
- 3080 3090 Sandstone, white, clear, very fine to fine grained, rounded to subrounded, well sorted quartzose, many clear grains, trace amber grains, few grey chert grains.
- 3090 3100 Sandstone, white, clear, very fine to fine grained, rounded to subrouned, well sorted quartzose, many clear grains, few grey chert grains, trace amber grains, bentonitic.
- 3100 3110 Shale,green,lt green,chunky,firm,dense,noncalcareous,earthy textured Smooth. Mostly Bentonte,tan,cream,soft,lumpy.
- 3110 3120 Shale,dk grey,chunky,blocky,firm,dense,nocalcareous,waxy Textured. Bentonite,white,soft,lumpy.
- 3120 3130 Shale,lt.greyish,grey,chunky,firm,dense,noncalcareous,waxy textured. much Bentonite,white,soft,lumpy. Many coarse grained,angular orange grains in sample pan. Many unconsolidated grains in sample pan.

#### 3135 - Sample Top - Morrison

- 3130 3140 Sandstone, white, tan, clear, very fine to fine grained, rounded to subrounded well to moderately sorted quartzose, many clear and frosty grains. few grey grains.
- 3140 3150 Shale, multicolored, brick red, green, lt green, maroon, grey, "baby poop yellow", chunky, soft to firm, dense, noncalcareous, earthy textured.
- 3150 3160 Shale, brick red, reddish brown, trace yellow above, chunky, soft to firm, dense, noncalcareous, earthy textured, Bentoite, white, soft, lumpy.

3160 - 3170	Shale,maroon,greenish grey,grey,chunky,soft to firm,dense, Noncalcareous,earthy to waxy textured.Bentonite,white,soft.
3170 – 3180	Shale,baby poop yellow,chunky,soft,noncalcareous,earthy textured. Shale,grey,lt grey,chunky,soft firm,dense,noncalcareous, earthy textured.
3180 – 3190	Siltstone, brown, chunky, blocky, firm to hard, dense, very calcareous, tight, no shows. Shale, grey, chunky, soft to firm, dense, calcareous, earthy to gritty textured.
3190 – 3200	Shale,dk grey,chunky,soft to firm,dense,noncalcareous,earthy to gritty textured,sandy in parts. Limestone,tan,buff,sublithoghraphic, dense,tight,very calcareous.
3208 – E Log	Top - Swift
3200 - 3210	Sandstone, brown, very fine to fine grained, rounded to subrounded, well sorted, quartzose, many clear and dark grains.
3210 – 3220	Shale,dk grey,chunky,soft to firm,dense,noncalcareous,gritty Textured. Many very fine grains in sample pan.
3220 – 3230	Sandstone, brown, very fine to fine grained, rounded to subangular, well to Moderately sorted quartzose, many clear grains and few grey grains.
3230 – 3240	Sandstone as above. Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
3240 – 3250	Sandstone, brown, very fine to fine grained, rounded, well sorted quartzose many clear grains. Shale dk grey, chunky, soft to firm, dense, noncalcareous gritty textured

3250 - 3260 same as above.

3380 - 3390 Marlstone as above.

3260 – 3270 Sandstone, brown, very fine grained, rounded, well sorted quartzose many clear and grey grains.

3270 - 3280	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
3280 – 3290	Shale,grey,chunky,platy,firm,dense,noncalcareous,earthy to gritty textured.
3290 – 3300	Shale, grey, chunky, platy, firm, dense, noncal careous, earthy textured.
3300 – 3310	Shale,grey,lt grey,chunky,platy,firm,dense,noncalcareous,earthy Textured.
3310 – 3320	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
3320 – 3330	Shale as above. Shale,tan,light brown,blocky,firm,dense,very calcareous, Slightly gritty textured.
3331 – Sampl	e Top - Rierdon(Ellis Formation)
3330 – 3340	Marlstone,dove grey,chunky,blocky,firm to hard,dense,very calcareous earthy textured,micropyritic. Marlstone,tan,soft,lumpy,very calcareous. Marlstone,white,soft,lumpy,very calcareous.
3340 - 3350	same as above.
3350 – 3360	Marlstone,dove grey,chunky,soft to firm,dense,very calcareous,earthy textured,micropyritic.
3360 - 3370	same as above.
3370 – 3380	Marlstone,dove grey,chunky,firm to hard,dense,very calcareous, earthy textured,micropyritic. Marlstone,tan,soft,lumpy.

3390 - 3400	Marlstone, dove grey, greenish grey, chunky, firm to hard, dense, very calcareous, micropyritic.earthy textured. Marlstone, white, soft, lumpy,
	very calcareous.

3400 – 3410 Marlstone,dove grey,greenish grey,chunky,firm to hard,dense,very calcareous,earthy textured,micropyritic.

#### 3416 - Sample Top - Sawtooth

- 3410 3420 Siltstone,lt greenish grey,chunky,firm to hard,dense,very calcareous, gritty to sandy textured,micropyitic,sandy in parts.
- 3420 3430 Siltstone,lt grey,chunky,blocky,firm to hard,dense,very calcareous, micropyritic. Much Pyrite.
- 3430 3440 Siltstone,lt grey,grey,chunky,blocky,firm to hard,dense,very calcareous sandy textured,micropyritic. Much pyrite.
- 3440 3442 Sandstone,tan,cream,very fine grained,rounded,well sorted quartzose,calcareous,many unconsolidated grains in sample pan,no shows.

#### 3442 - Total Depth by Driller

## Form No. 4 R10/09 LOCATE WELL CORRECTLY

#### (SUBMIT IN TRIPLICATE) TO

ARM 36.22.302 ARM 36.22.307 ARM 36.22.1011 ARM 36.22.1013 ARM 36.22.1414

### MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS MONTANA 59102

$\perp$			BIL	LINGS, M	ONTANA	59102				
			CC	MPLET	ION REF	PORT			/	
							API	# 25	073 /	21872
Company Al	LTAMONT	OIL & G	AS. INC	Le	ase FIEL	.D		2	ell No.	4-1A
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County PON							(S	lurface)		(KB)
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					Signed	PRESI	DENT &	CEO	Date	6/30/2010
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8-3/4"	Surface	7"	17#/ft	Ltd	17 jts	0	726.67 ' KB	160	726.67'	КВ
6-1/4"	Production	4-1/2"	10.5#/ft	API	85 jts	726.67' KB	3440.91'	60	3440.91'	KB
	-	-								
					Open-hole	Intervals			Open or Iso	lated
Well Bore	Open Hole/F	Perf'd Zone Bottom	Holes per foot		Size ar	nd Type			ethod of iso	
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		3460'	Logger	-						
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#### Sample Formation Tops

Cretaceous	<u>Depth</u>	<u>Datum</u>
Colorado		
Two Medicine		
Blackleaf	1786	+2289
Blackleaf Bentonite Marker	1825	+2250
Blackleaf Sandstone	1830	+2245
Base Fish Scales		-
1 <sup>st</sup> Bow Island	1884	+2191
2 <sup>nd</sup> Bow Island	2026	+2049
3 <sup>rd</sup> Bow Island	2134	+1941
4th Bow Island "A"	2367	+1708
4th Bow Island "B"	2413	+1662
Dakota	2539	+1536
Kootenai	2582	+1493
Sunburst	3079	+996
Jurassic		
Morrison	3135	+940
Swift	3208	+867
Rierdon(Ellis Shale)	3331	+744
Sawtooth	3416	+659
Suvitoodi		
Mississippian		
Madison(Sun River Dolomite)		7-
Total Depth:	3542	+633
-	3542	+613/
	/14-	1

#### **EXHIBIT C**

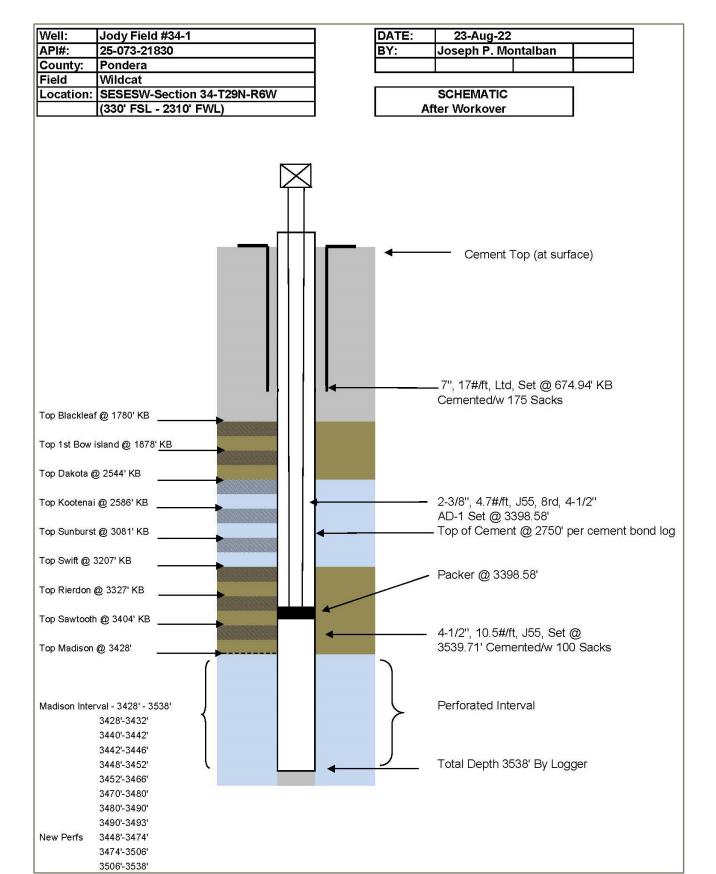
WatchDog® Monitoring System Specifications





#### WatchDog 4 Specifications

Requirements &	Ideally the unit should be faced for optimum solar exposure (i.e. south in the northern hemisphere) Requires at least 1 bar of cell service. Typically works were text works
Environment	-40°C to 65°C (-40F to 150F), NEMA4 All exposures except for immersion
Certifications	Class I Div. 2, Groups C & D, Exia FCC PART 15 IC/ICES-003 Analog Input 1-3: Class 1 Div 1 Digital Input 1-2: Class 1 Div 2 Pulse Counter: Class 1 Div 1
Operation	Sample frequency: minutely, up to 24 images per day, hourly data upload.  Minute by Minute data available (transmits hourly)  Up to 30 days without solar charge
Options	Up to 2 High dynamic range cameras (640x480 images) Up to 3 external RTDs, (1-5Vdc), and/or (4-20mA) Sensors Up to 6 external RTDs, (1-5Vdc), and/or (4-20mA) Sensors, WatchDog4 Add-On-Board required (see Add-On-Board Documentation)
Ordering	<ul> <li>Systems include cables, end device(s), and mounting.</li> <li>Installation available (Call for quote)</li> <li>Specify quantity of cameras: (0-2) c/w 3m cable</li> <li>Specify qty of RTDs, Vibration, Electric Current and or Pressure Sensors: (0-6) c/w 3m cable</li> <li>Specify range of Pressure sensors: (15, 50, 500, 1500, 5000 psi).</li> <li>Typical lead time &gt; 4 weeks.</li> </ul>
Mounting	A Frame, stand, and wall mount available
Shipping	FOB Calgary, AB Dimensions (LxWxH): Weight: 5.4 kg (incl. battery pack)
Warranty	90 days, parts and labour
Consumables	1 field replaceable 12Ahr 6Vdc SLA battery included.
Pricing (CAD)	\$1500 -\$3,500 email for quote info@afti.ca  WD4 Spec. Sheet © Revised September 23, 2019





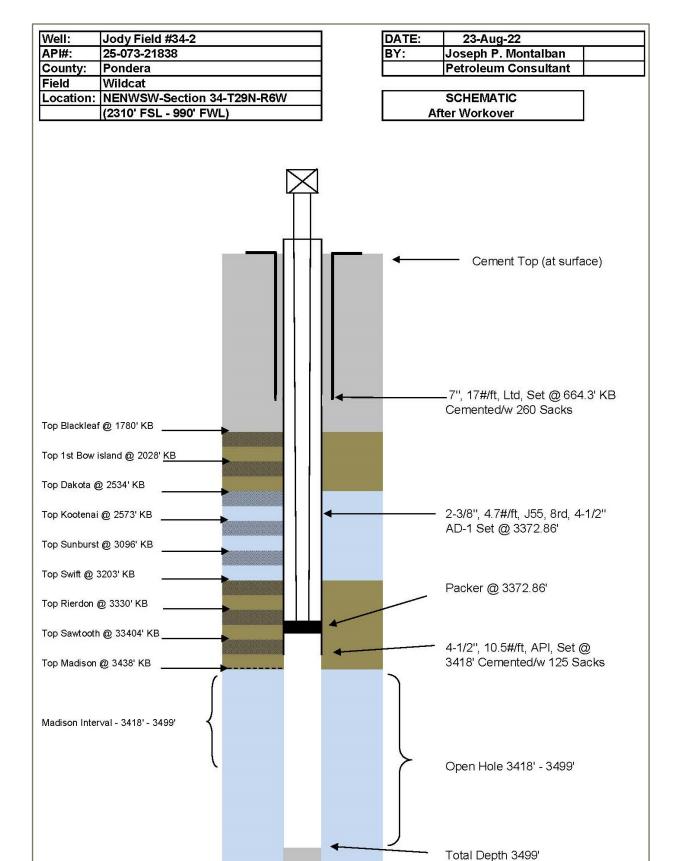
#### WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-1

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS

#### Attachment C Figure 01

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY







#### WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-2

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS

#### Attachment C Figure 02

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY



Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

Attachment D
Injection Operation and
Monitoring Program
(40 CFR § 144.54)



#### **CONTENTS**

1.	Injection Process Flow, Facilities and Monitoring	2
2.	Injection Well Maintenance	2
3.	Loss of Mechanical Integrity During Operation	2
4.	Injectate Characteristics	3

#### **FIGURES**

Figure 1. Injection Site Layout

Figure 2. Injection Operations Jody Field Wells 34-1 and 34-2

#### **EXHIBITS**

Exhibit A. WatchDog® System Specifications

### 1. INJECTION PROCESS FLOW, FACILITIES AND MONITORING

Montalban Oil & Gas Operations, Inc. (Montalban) will receive industrial wastewater from Montana Renewables, a renewable fuels refinery located in Great Falls, Montana. The Class V injection wells are located on private property. The wastewater will be delivered by truck via secure access from Range View Road and offloaded to the frac tanks located at the injection site. (**Figure 1**). A transfer pump will pump the water from the frac tanks to the 300 bbl water tank located next to the injection building. The water will be sent from the injection pump through the injection lines to wells Jody Field 34-1 and Jody Field 34-2 (**Figure 2**). A pressure actuated shutoff device (Murphy switch) is located in the injection building and is set to shut-off flow from the injection pump when pressures reach within 200 to 300 psi of the Maximum Allowable Injection Pressure (MAIP) established for the wells.

Each injection well is housed in a  $4' \times 6'$  building that is insulated and heated for winter operations. The wells will be equipped with the WatchDog® virtual well-site monitoring system, which will continuously monitor injection volumes and flow rates, pressure on the tubing, and pressure on the backside of the packer and tubing casing annulus. Data will be monitored 24/7 on scheduled transmissions, however, should a threshold for pressure be crossed, the WatchDog® system will transmit immediately with a device alarm. The pressure sensors are capable of monitoring pressures ranging from normal operating pressures up to the MAIP. Specifications for the WatchDog® system are provided in Exhibit A.

The tubing casing annulus will be filled with water treated with a corrosion inhibitor, and the valve will remain closed during normal operating conditions so that the pressure will be maintained at zero (0) psi. A "tap" will be placed at a conveniently accessible location on the discharge line of the pump that leads to the injection wells for collection of representative samples of the injected fluid.

#### 2. INJECTION WELL MAINTENANCE

The well parameters will be monitored daily to identify any trends that could indicate a loss of injectivity. In the event a well workover is required to maintain well performance, EPA will be notified and a Mechanical Integrity Test (MIT) will be conducted to demonstrate integrity of the well prior to resuming injection.

#### 3. LOSS OF MECHANICAL INTEGRITY DURING OPERATION

Mechanical Integrity will be continuously monitored using the WatchDog® well-site remote monitoring system which will alert Montalban immediately upon well failure. In the event of a loss of mechanical integrity, the well will be promptly shut-in, EPA will be notified, and repairs will be conducted to achieve and demonstrate mechanical integrity prior to resuming injection.

#### 4. INJECTATE CHARACTERISTICS

The wastewater from Montana Renewables will be generated from the pretreatment of renewable feedstocks. The renewable feedstocks may include, but are not limited to, vegetable oils (such as soybean oil and canola oil), animal fats (such as beef tallow, choice white grease, and poultry fat) distiller's corn oil, and used cooking oil.

The pretreatment process technology is developed and licensed by Applied Research Associates, Inc. (ARA). The technology involves a water-based (hydrothermal) cleanup process to pretreat feedstocks and feedstock blends prior to processing into renewable fuels. The pretreatment removes impurities from the renewable oils to extend the life of the catalysts. In this pretreatment process, water and a weak acid are mixed with the feedstock at high temperatures and pressure. After a predetermined contact time, the mixture is cooled and separated in an electrostatic separator to produce a renewable oil suitable for processing into renewable fuels, and a water phase. Phosphorus, nitrogen, salts and other impurities are removed with the water phase. This water phase comprises the wastewater requested for approval for injection.

The ARA pre-treatment system is currently under construction. Therefore, final water quality data for the various blends of feedstock are not available. However, based on bench scale analyses and projections from ARA, the following range of raw water quality is approximated:

- nH: 3
- TDS: 5,000 mg/L 8,000 mg/L
- Conductivity: 2,809 μS/cm 4,500 μS/cm

Prior to injection, the pH will be adjusted to be compatible with the injection well design based on geochemical modeling of water/well, water/rock and water/water interactions. Adjustment of the pH will result in an increase in TDS. Initial bench scale testing indicates this TDS increase to be in the 5-10% range and will depend on the buffering capacity of the wastewater during operation.

The wastewater will be injected into the Mississippian Madison Aquifer, which is determined to be an Underground Source of Drinking Water (USDW), with a measured TDS concentration within the UIC permit area of 5,440 mg/L. An aquifer exemption has been requested (UIC Permit Application, Attachment H).

At startup, the average volume of wastewater to be injected into each well is approximately 800 to 900 bbls/day. These volumes are consistent with the operation of the Class II wells, which have received up to an average of 850 bbls/day. The average and maximum injection rates are 1,300 and 2,000 bbls/day respectively. The maximum injection pressure is 1,025 pounds with an average injection pressure of 600 pounds. The pressures are authorized by the Montana Board of Oil & Gas Conservation within the current Class II UIC permits.

Montana Renewables plans to increase the wastewater injection volume over the life of the facility up to a potential maximum of 3,600 bbls/day. Future Class V UIC wells are proposed in the Area Wide UIC Permit Application to accommodate this expansion, as described in Attachment A of the Area Wide UIC Permit Application.

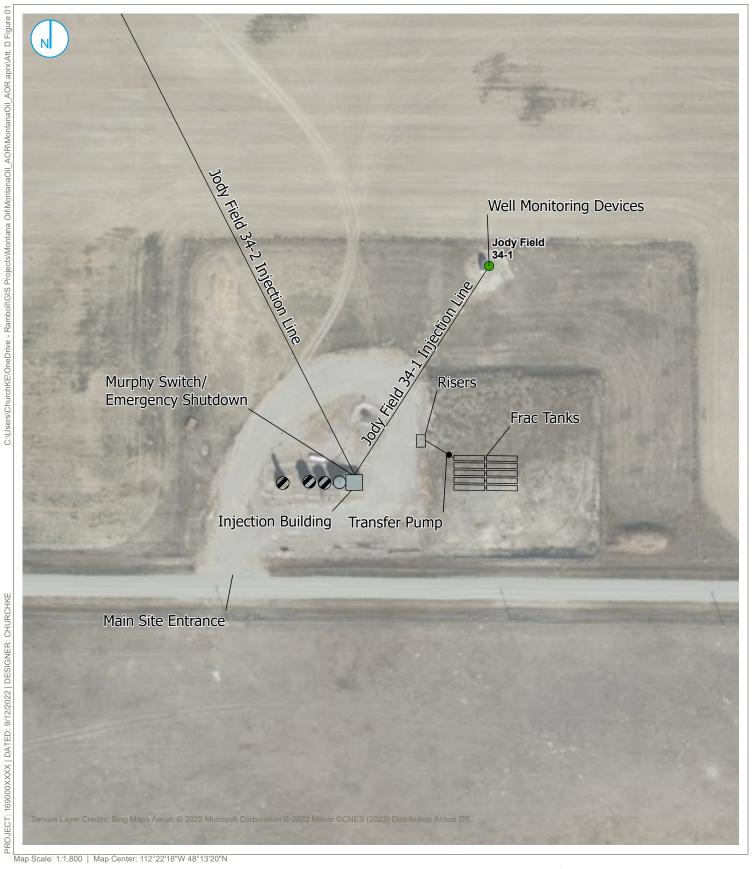
Attachment D Injection Operation and Monitoring Program (40 CFR § 144.54)

#### **Privileged and Confidential**

#### **FIGURES**

Figure 1. Injection Site Layout

Figure 2. Injection Operations and Monitoring Program



## KEY MAP (not to scale)

#### Active Injection

Out of Service Equipment

Polygon Notes

#### **INJECTION SITE LAYOUT**

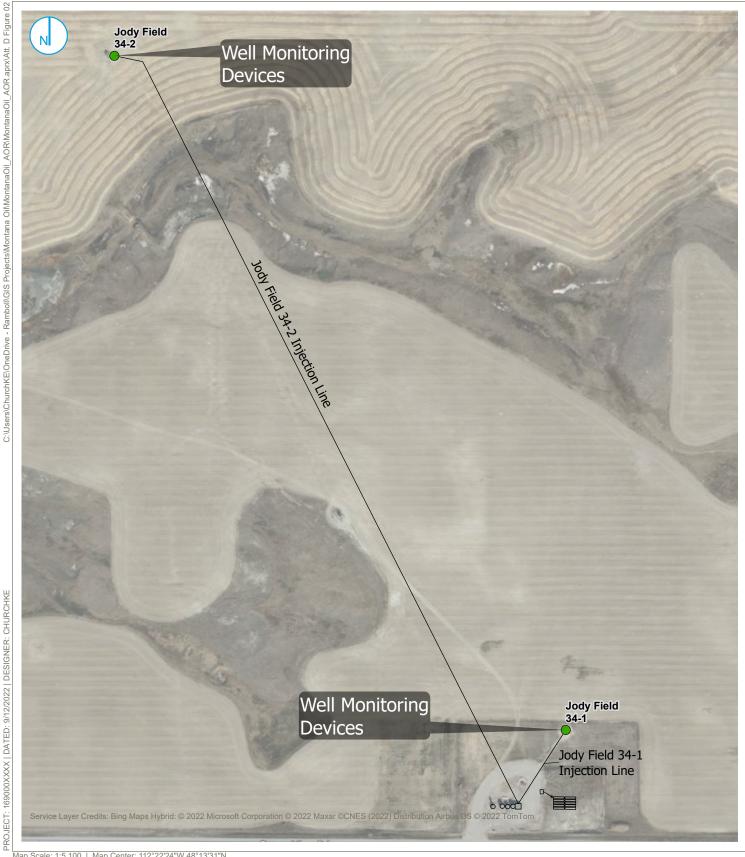
MONTALBAN OIL AND GAS
OPERATIONS INC - AREA WIDE UIC
APPLICATION
JODY FIELD WELLS

### Attachment D Figure - 01

RAMBOLL US CONSULTING, INC. A RAMBOLL COMPANY



0 75 150 L L Feet



Map Scale: 1:5,100 | Map Center: 112°22'24"W 48°13'31"N

#### Active Injection

#### **INJECTION OPERATIONS JODY FIELD WELLS 34-1 AND 34-2**

**MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE UIC** APPLICATION **JODY FIELD WELLS** 

#### **Attachment D** Figure - 02

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY





KEY MAP (not to scale)

212.5

Ramboll - Montalban Oil & Gas Operations,	Inc.
Area-Wide Class V UIC Application	

Attachment D Injection Operation and Monitoring Program (40 CFR § 144.54)

**Privileged and Confidential** 

#### **EXHIBITS**

Exhibit A. WatchDog® System Specifications





## WatchDog 4 Specifications

Requirements &	Ideally the unit should be faced for optimum solar exposure (i.e. south in the northern hemisphere) Requires at least 1 bar of cell service. Typically works were text works
Environment	-40°C to 65°C (-40F to 150F), NEMA4 All exposures except for immersion
Certifications	Class I Div. 2, Groups C & D, Exia FCC PART 15 IC/ICES-003 Analog Input 1-3: Class 1 Div 1 Digital Input 1-2: Class 1 Div 2 Pulse Counter: Class 1 Div 1
Operation	Sample frequency: minutely, up to 24 images per day, hourly data upload. Minute by Minute data available (transmits hourly) Up to 30 days without solar charge
Options	Up to 2 High dynamic range cameras (640x480 images) Up to 3 external RTDs, (1-5Vdc), and/or (4-20mA) Sensors Up to 6 external RTDs, (1-5Vdc), and/or (4-20mA) Sensors, WatchDog4 Add-On-Board required (see Add-On-Board Documentation)
Ordering	<ul> <li>Systems include cables, end device(s), and mounting.</li> <li>Installation available (Call for quote)</li> <li>Specify quantity of cameras: (0-2) c/w 3m cable</li> <li>Specify qty of RTDs, Vibration, Electric Current and or Pressure Sensors: (0-6) c/w 3m cable</li> <li>Specify range of Pressure sensors: (15, 50, 500, 1500, 5000 psi).</li> <li>Typical lead time &gt; 4 weeks.</li> </ul>
Mounting	A Frame, stand, and wall mount available
Shipping	FOB Calgary, AB Dimensions (LxWxH): Weight: 5.4 kg (incl. battery pack)
Warranty	90 days, parts and labour
Consumables	1 field replaceable 12Ahr 6Vdc SLA battery included.
Pricing (CAD)	\$1500 -\$3,500 email for quote <a href="mailto:info@afti.ca">info@afti.ca</a> WD4 Spec. Sheet
	© Revised September 23, 2019

Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

Attachment E
Plugging and Abandonment
Plan
(40 CFR §§ 144.31 & 144.51)

#### **CONTENTS**

1. Plugging and Abandonment Plans

2

#### **EXHIBITS**

Exhibit A. Plugging and Abandonment Plans

#### 1. PLUGGING AND ABANDONMENT PLANS

Updated plugging and abandonment plans have been prepared for Wells Jody Field 34-1 and 34-2, based on recent workovers and are included in Exhibit A. The plans are required by the Montana Board of Oil and Gas Conservation and have been approved for the existing Class II UIC wells.

Ramboll - Montalban Oil & Gas Operations, Inc. Area-Wide Class V UIC Application Attachment E Plugging and Abandonment Plan (40 CFR §§ 144.31 & 144.51)

#### **Privileged and Confidential**

#### **EXHIBIT A**

Plugging and Abandonment Plans

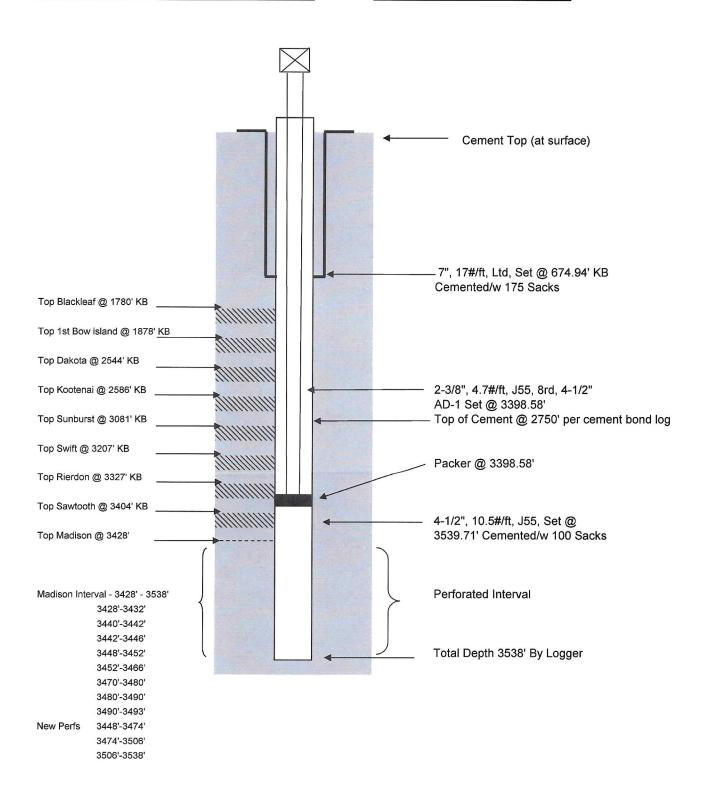
MT BOGC Approved Montalban Oil & Gas Operations, Inc. Operator: **Wellbore Schematic** \_ease: Jody Field Well No. 25-073-21830 Type: API No. Injection Status: Active KE ### Location: **S34 29N 6W, SESESW** (330'FSL & 2310'FWL) MT Field: Wildcat Pondera State: County: Spud Date: TD: 4/30/2008 3,543 KB 4071' PBTD: GL Comp Date: 5/6/2008 130sx 7" set w/175sx WELLBORE CONSTRUCTION Weight/Grade Depth Cement Size G cmt cmt back to sfc Open Hole 8 3/4" 675 Surface 17lb / LTD 675' 175 '@674.94'KB Open Hole 685 Intermediate Open Hole 6 1/4" 3543 100 Production 4.5" 10.5lb / J-55 3540' Liner DV Tool Formation Tops Blackleaf 1780' 1st Bow Island 1878 Dakota 2544' 2586' Drilling Mud Kootenai 3081 Sunburst 9lb Gelled Swift 3207 Rierdon 3327' Water 3404 Sawtooth Madison 3428' Perforations Required - P&A Depth 1 4spf 3 1/8" HSC 19gm or csg rip 684-685 12sx G cmt (2650-2800) Mechanical Plugs Required - P&A Depth TOC 2750' per CBL 3,380' 9lb Gelled Water Cement Required to P&A 3252 Sacks Plug #1 Sqz into perfs(3428-3538) 35 Balance on CICR (3252-3380) Set CICR@3380 Plug #2 10 Perfs 3428-3432 3440-3442 3442-3446 Plug #3 (2650 - 2800)12 3448-3452 3452-3466 3470-3480 Plug #4 (0-685) in 4.5" & 4.5x7"annulus 130 35 sx 3480-3490 3490-3493 3448-3474 Plug #5 G cmt 3474-3506 Plug #6 4.5"@3539.71"KB Total Sacks 187 New Perfs 3506-3538 TD 3543' Generalized Plugging Procedure Remove wellhouse & prepare location for service rig and P&A support equipment. MIRU Service rig, set anchors. Dig working pits, lay out tubing and AD1 packer. On workstring run 4.5" casing scraper to 3400'KB, lay out scraper and RIH with a CICR and set it at 3380'KB. Establish injection rate thru retainer and squeeze away 35sx G cement + additives into the Madison perfs. Sting out and balance 10sx G cement on top of CICR. Pull up out of cement and fill hole with 9lb gelled water. Set 12 sx G cement balanced plug at 2650-2800 across TOC behind pipe. Lay out setting tool. Perforate or run mechanical csg ripper and perf or rip 4.5" csg from 684-685'. Lay out perf gun/ripping tools. Install 4.5x2" swedge on csg and break circ w/water down 4.5 & up 7", then bullhead 130sx G cement until get good cement returns to surface in and out both strings of casing. Dig down and cut/cap casings 4ft below surface and weld on a steel ID plate. Cut off injection line riser 4' below sfc, purge it of fluids and then cap it. Restore location back to natural grade and then reseed disturbed areas back to native grasses as per sfc owner. Cleanup any debris and solid waste for removal and proper disposal off site. Surface Owner Jody Field 5353 Range View Rd Valier, MT 59486-5424 DATE: 10/3/2022 PREPARED BY: G. Klotz

· . . 3

Well:	Jody Field #34-1
API#:	25-073-21830
County:	Pondera
Field	Wildcat
Location:	SESESW-Section 34-T29N-R6W
	(330' FSL - 2310' FWL)

DATE:	23-Aug-22	
BY:	Joseph P. Montalban	

SCHEMATIC After Workover

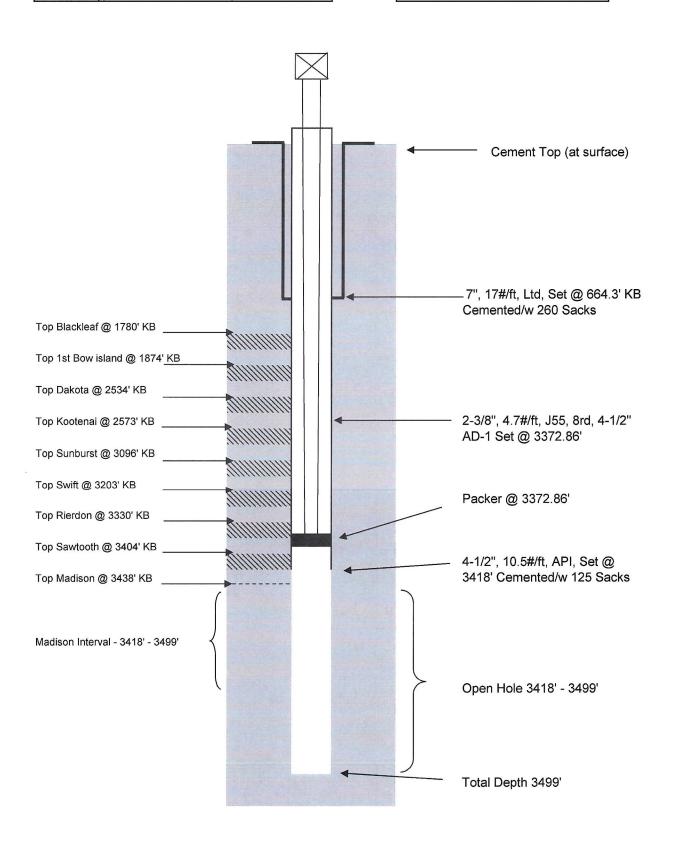


Montalban Oil & Gas Operations, Inc. Operator: MT BOGC Approved 34-2 Well No. Jody Field Lease: Wellbore Schematic Active Status: 25-073-21838 Type: Injection API No. (2310'FSL & 990'FWL) KB 5' S34 29N 6W, NWSW Location: Wildcat Field: MT State: Toole 8/7/2008 County: Spud Date: 4038 3499'(deepened) KB TD: 8/18/2008 Comp Date: 4033' GL PBTD 130sx WELLBORE CONSTRUCTION Cement Depth G cmt Weight/Grade Size 668 Open Hole 8 3/4" 260 664' 17lb / LTD Surface Open Hole 7"@664 Intermediate 675 3419 6 1/4" Open Hole 125 3418 4.5" 10.5lb / API Production Liner Formation Tops DV Tool 1780 Blackleaf 1874' 1st Bow Island 2534 Dakota 2573 Kootenai 3096 Sunburst 3203' 9h Gelled Swift 3330 Water Rierdon Drilling Mud 3404 Sawtooth 3438' Madison Depth Perforations Required to P&A 674-675 1 4spf 3 1/8"HSC 19gm or csg rip 1935 Depth 12sx G cmt Mechanical Plug Required to P&A Cal TOC @ 2017' 3,390' CICR 2090 Sacks 9lb Gelled Cement Required to P&A 20 Water Sqz below CICR (3390-3499') Plug #1 10 Balance on CICR (3262-3390') Plug #2 (1935-2090') 12 Plug #3 130 3262' (0-675') in 4.5" & 4.5x7"annulus Plug #4 Plug #5 10sx G cmt Plug #6 Set CICR@3390'KB Total Sacks 172 4.5"@3418' w/125s> Madison fm 20sx G cmt Generalized Plugging Procedure 3.75" OH(3418-3499') Remove wellhouse & prepare location for service rig and P&A support equipment. MIRU Service rig, set anchors. Dig working pits, lay out 2 3/8" tubing and AD1 pkr Run 4.5" csg scraper in on workstring to 3400'KB, clean out if necessary. Lay out csg scraper. RIH with CICR on workstring and set it at 3390'KB, establish injection rate with water thru retainer and then squeeze off open hole Madison section with 20sx G cement + additives. Sting out of retainer and balance 10sx G cement on top of CICR from (3262-3390'). Pull up out of cement and circ hole with 9lb gelled water then balance 12sx G cmt from (1935-2090') across estimated TOC behind the 4.5" csg. Lay out the setting tool. Perf or csg rip the 4.5" from 674-675', lay out perf gun or ripping tool. Dig out 7" csg head, swedge up to the 4.5" csg and pump water down until get returns out 7" then bullhead squeeze the 4.5" and 4.5 x7" annulus with 130sx G cement until get good returns out 7" at surface. Dig down and cut/cap casings 4ft below sfc with steel ID plate welded on top. Cut off the injection line riser off 4ft down and purge it, then cap it. Backfill location back to natural contour and clean up any debris and solid waste for proper disposal off site. No reseeding will be necessary since site is on cultivated farmland and it will be farmed over in the future. Surface Owner Jody Field 5353 Range View Rd Valier, MT 59486-5424 10/3/2022 DATE: PREPARED BY: G.Klotz

Well:	Jody Field #34-2
API#:	25-073-21838
County:	Pondera
Field	Wildcat
Location:	NENWSW-Section 34-T29N-R6W
	(2310' FSL - 990' FWL)

DATE:	23-Aug-22			
BY:	Joseph P. Montalban			
	Petroleum Consultant			

SCHEMATIC	
After Workover	



Prepared by

Ramboll US Consulting Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

Attachment F Financial Information (40 CFR § 144.52)



#### **CONTENTS**

1.	Plugging and Abandonment Cost Estimates	2
2.	Financial Assurance Mechanism	2

#### **EXHIBITS**

Exhibit A. Plugging and Abandonment Cost Estimates Exhibit B. Standby Trust Agreement and Letter of Credit

#### 1. PLUGGING AND ABANDONMENT COST ESTIMATES

Montalban obtained two cost estimates for plugging and abandonment of Jody Field Wells 34-1 and 34-2, based on their current design (Exhibit A). Liquid Gold Well Service Inc. provided an estimate for both wells of \$46,357. A second cost estimate was provided by Enneberg Excavation LLC of \$23,950 for both wells. Financial assurance was established based on the higher cost estimate.

#### 2. FINANCIAL ASSURANCE MECHANISM

A Standby Trust Agreement and Letter of Credit in the amount of \$46,357 was executed on October 10, 2022 between Montalban Oil & Gas Operations, Inc. and Freedom Bank (Exhibit B). The fund is explicitly established for plugging and abandonment of injection wells Jody Field 34-1 and Jody Field 34-2. The Letter of Credit is effective as of October 10, 2022 and expires on October 10, 2023 with automatic annual renewal on each successive expiration date, subject to the terms provided in Exhibit B.

Based on the location of the wells (on private, rural agricultural land), no land reclamation costs are anticipated.

Ramboll - Montalban Oil & Gas Operations, Inc. Area-Wide Class V UIC Application Attachment F Financial Assurance (40 CFR § 144.52)

#### **Privileged and Confidential**

#### **EXHIBIT A**

Plugging and Abandonment Cost Estimates

Company: MOGO INC. Well: P&A Jody Field 34-1 Date: 10/06/22

MIRU service rig and cementing equip. release packer and TOH. Round trip casing scraper to 3400'. TIH with 4.5" CICR set at 3380'. Establish rate and squeeze 35 sx cement, sting out and spot 10 sx on top. trip out to 3200' roll hole with gel fluid, trip out to 2800', balance 12 sx cement. Stand back 690' pipe, lay out rest. SDFN crew travel to Cut Bank.

Day 2

Crew travel to location, hold safety meeting and start up equip. trip in hole with casing ripper and rip at 685'. Trip out tool, swedge casing, establish circulation, pump 130 sx cement around for returns up annulas. Shut in well, rig down all equipment. Dig out well 6' below surface, cut and cap well @ 4' below ground level. Reclaim well hole and working pit. Travel to town.

Unit Price	#ea	<b>Equipment</b>	<u>Day 1</u>	Day 2	Day 3	<u>Day 4</u>	<u>Total</u>
\$260.00 hr	1	Rig	10	6			\$4,160.00
\$50.00 hr	8	Crew trave hr	1	1			\$800.00
\$55.00 day	1	Daily Pickup charge	3	3			\$330.00
\$450.00 day	1	Supervisor /tool pushe	e 2	2			\$1,800.00
\$0.00 ea/day	1	Subsistence					\$0.00
\$1,600.00 well/day	1	Cement Pump Truck	1	1			\$3,200.00
\$4.00 mile	1	Pump Truck Mileage	45				\$180.00
\$750.00 well/day	1	Cement Bulk Truck	1	1			\$1,500.00
\$4.00 mile	1	Bulk Truck Mileage	45				\$180.00
\$23.00 sac	1	Bulk Cement	57	130			\$4,301.00
\$125.00 hr	1	Water Truck	10	6			\$2,000.00
\$100.00 hr	1	Welding Truck		2			\$200.00
\$100.00 hr	1	Backhoe	4	4			\$800.00
\$50.00 per day	1	enviro/safety	1	1			\$100.00
\$2,100.00 ea	1	CICR	1				\$2,100.00
\$100.00 ea/well	1	WS tralier	1	1			\$200.00
\$1.25 per lb	1	CaCl					\$0.00
\$1,500.00 per rip	1	casing ripper		1			\$1,500.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00

**TOTAL** \$23,351.00

Company: MOGO INC. Well: P&A Jody Field 34-2 Date: 10/06/22

MIRU service rig and cementing equip. release packer and TOH. Round trip casing scraper to 3400'. TIH with 4.5" CICR set at 3390'. Establish rate and squeeze 20 sx cement, sting out and spot 10 sx on top. trip out to 3200' roll hole with gel fluid, trip out to 2090', balance 12 sx cement. Stand back 675' pipe, lay out rest. SDFN crew travel to Cut Bank.

Day 2

Crew travel to location, hold safety meeting and start up equip. trip in hole with casing ripper and rip at 685'. Trip out tool, swedge casing, establish circulation, pump 130 sx cement around for returns up annulas. Shut in well, rig down all equipment. Dig out well 6' below surface, cut and cap well @ 4' below ground level. Reclaim well hole and working pit. Travel to town.

Unit Price	#ea	<b>Equipment</b>	Day 1	Day 2	Day 3	Day 4	<u>Total</u>
\$260.00 hr	1	Rig	10	6			\$4,160.00
\$50.00 hr	8	Crew trave hr	1	1			\$800.00
\$55.00 day	1	Daily Pickup charge	3	3			\$330.00
\$450.00 day	1	Supervisor /tool pushe	2	2			\$1,800.00
\$0.00 ea/day	1	Subsistence					\$0.00
\$1,600.00 well/day	1	Cement Pump Truck	1	1			\$3,200.00
\$4.00 mile	1	Pump Truck Mileage	45				\$180.00
\$750.00 well/day	1	Cement Bulk Truck	1	1			\$1,500.00
\$4.00 mile	1	Bulk Truck Mileage	45				\$180.00
\$23.00 sac	1	Bulk Cement	42	130			\$3,956.00
\$125.00 hr	1	Water Truck	10	6			\$2,000.00
\$100.00 hr	1	Welding Truck		2			\$200.00
\$100.00 hr	1	Backhoe	4	4			\$800.00
\$50.00 per day	1	enviro/safety	1	1			\$100.00
\$2,100.00 ea	1	CICR	1				\$2,100.00
\$100.00 ea/well	1	WS tralier	1	1			\$200.00
\$1.25 per lb	1	CaCl					\$0.00
\$1,500.00 per rip	1	casing ripper		1			\$1,500.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00

**TOTAL** \$23,006.00



#### **Well Service & Completions**

Bid for Jody Field 34-1, 34-2 Injection wells

This bid is for the following work as requested by Patrick Montalban

Jody Field 34-1 Well

MIRSU, POOH with tubing and packer, TIH with tubing and casing scraper to 3400′, lay out scraper, pickup 4.5″ CICR, and RIH, set at 3380′, establish pump rate through retainer, squeeze 35sx cement, sting out of retainer and balance 10sx cement on top of retainer, pull out of cement, and fill hole with 9lb gelled water, POOH to 2800′ and balance a 12sx cement plug. POOH lay down tubing, pick up casing ripper and RIH to 685′, and rip from 685′ to 684′, lay out casing ripper, install casing swage, circulate 130sx cement down 4.5″ casing and up annulus until good cement returns are observed, tear out, RDMO.

TOTAL: \$12250



# **Well Service & Completions**

Bid for Jody Field 34-1, 34-2 Injection wells

This bid is for the following work as requested by Patrick Montalban

Jody Field 34-2 Well

MIRSU, POOH with tubing and packer, TIH with tubing and casing scraper to 3400′, lay out scraper, pickup 4.5″ CICR, and RIH, set at 3390′, establish pump rate through retainer, squeeze 20sx cement, sting out of retainer and balance 10sx cement on top of retainer, pull out of cement, and fill hole with 9lb gelled water, POOH to 2090′ and balance a 12sx cement plug. POOH lay down tubing, pick up casing ripper and RIH to 675′, and rip from 675′ to 674′, lay out casing ripper, install casing swage, circulate 130sx cement down 4.5″ casing and up annulus until good cement returns are observed, tear out, RDMO.

**TOTAL: \$11700** 

Ramboll - Montalban Oil & Gas Operations, Inc. Area-Wide Class V UIC Application Attachment F Financial Assurance (40 CFR § 144.52)

# **Privileged and Confidential**

# **EXHIBIT B**

Standby Trust Agreement and Letter of Credit

# STANDBY TRUST AGREEMENT

# U.S. ENVIRONMENTAL PROTECTION AGENCY UNDERGROUND INJECTION CONTROL PROGRAM FINANCIAL RESPONSIBILITY REQUIREMENT

To: Mail Code: 8ENF-W-SWD
UIC Financial Coordinator
U.S. Environmental Protection Agency, Region 8
1595 Wynkoop Street
Denver, CO 80202-1129

TRUST AGREEMENT, the "Agreement", entered into as of October 10, 2022

by and between Montalban Oil & Gas Operations, Inc., a Montana Corporation, the "Grantor", and Freedom Bank, incorporate in the State of Montana, the "Trustee".

WHEREAS, the United States Environmental Protection Agency (EPA), an agency of the United States Government, has established certain regulations applicable to the Grantor, requiring that an owner or operator of an injection well shall provide assurance that funds will be available when needed for plugging and abandonment of the injection well(s),

WHEREAS, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facility or facilities identified herein, and

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this Agreement, and the Trustee is willing to act as trustee,

NOW THEREFORE, the Grantor and Trustee agree as follows:

#### Section 1. Definitions. As used in this agreement:

- (a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.
- (b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.
- (c) Facility or activity means any "underground injection well" or any other facility or activity that is subject to regulation under the Underground Injection Control Program.

Section 2. Identification or Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on attached Schedule A (attached). (Schedule A lists, for each facility, the EPA identification number, name, address, and the current plugging and abandonment cost estimate, or portions thereof, for which financial assurance is demonstrated.)

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the purpose of assuring compliance with the plugging and abandonment requirements established by EPA for the facilities identified on Schedule A. The Underground Injection Control regulations which govern the authorization to inject include a requirement for such financial assurance that the well or wells shall be plugged and abandoned at the time

designated by EPA. The Grantor and Trustee acknowledge that the Fund and all expenditures from the Fund shall be to fulfill the legal obligations of the Grantor under such regulations, and not any obligation of EPA. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible, nor shall it undertake any responsibility, for the amount or adequacy of any additional payments necessary to discharge any liabilities of the Grantor established by EPA, nor shall the Trustee have any duty to collect such additional amounts from the Grantor.

Section 4. Payment for Plugging and Abandonment. The Trustee shall make payments from the Fund only for the costs of plugging and abandonment (P&A) of the injection wells covered by this Agreement and the associated P&A Plan, only after EPA has advised the Trustee that work has been completed under the P&A Plan that complies with 40 C.F.R. § 144.28 and/or § 144.52. The Trustee shall not refund to the Grantor any amounts from the Fund unless and until EPA has advised the Trustee that the P&A Plan has been successfully completed. The Trustee shall not release any funds to the Grantor that are necessary to cover liability for any injection wells covered by this Agreement that remain unplugged.

<u>Section 5. Payments Comprising the Fund</u>. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall-discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

- (i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government:
- (ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and
- (iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion: (a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and (b) To purchase shares in any investment company registered

under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered: (a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition; (b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted; (c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve Bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund; (d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and (e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the appropriate EPA Regional Administrator a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the EPA Regional Administrator shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

<u>Section 11 Advice of Counsel</u>. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement of any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

<u>Section 12. Trustee Compensation</u>. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the EPA Regional Administrator, and the present Trustee by certified mail 10 days before such changes become effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the EPA Regional Administrator to the Trustee shall be in writing, signed by the EPA Regional Administrators of the Regions in which the facilities are located, or their designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or EPA hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or EPA, except as provided for herein.

<u>Section 15. Amendment of Agreement</u>. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the appropriate EPA Regional Administrator, or by the Trustee and the appropriate EPA Regional Administrator if the Grantor ceases to exist.

Section 16. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 15, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the EPA Regional Administrator, or by the Trustee and the EPA Regional Administrator if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 17. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the EPA Regional Administrator issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to prove such defense.

<u>Section 18. Choice of Law</u>. This agreement shall be administered, construed, and enforced according to the laws of the State of Colorado.

Section 19. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of the Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed by their respective representatives duly authorized and their seals to be hereunto affixed and attested as of the date first above written.

the date first above written.	
GRANTOR	TRUSTEE
By: Miller	By: 10/10/22
[Signature] [Date]	[Signature] [Date]
By: Patrick M. Montalban	By: Don Bennett
Its: President [Title]	Its: President [Title]
Address: Montalban Oil & Gas Operations, Inc	Freedom Bank
PO Box 200	PO Box 2076
Cut Bank, MT 59427	Columbia Falls, MT 59912
(406) 873-2845	(406) 892-1776
patrickm@mogo-inc.com	dbennette@freedombankmt.com
Attest: ma Dealle	Attest: Wax Staller  Its: Vice Mindel
Its: Wee Presidet [Title] Frepelle Bark	Its: Use Midely [Title]
CARIE PELUCCA NOTARY PUBLIC for the State of Montana Residing at Kalispell, Montana My Commission Expires February 3, 2024	CARIE PELUCCA NOTARY PUBLIC for the State of Montana Residing at Kalispell, Montana My Commission Expires February 3, 2024
Before me came the individual	Before me came the individual
whose identity I confirmed as Patrick M. Montalban,	whose identity I confirmed as Don Bennett,
and whose true signature is set	and whose true signature is set
forth above; wherefore have I set	forth above; wherefore have I set
my hand and seal this 10th day of 10th , 2022	my hand and seal this, 20 22.

Notary Public

Notary Public

#### **SCHEDULE A**

# Identification of Facilities and Cost Estimates

Schedule A is referenced in the Trust Agreement dated October 10, 2022 by and

between Montalban Oil & Gas Operations, Inc, the "Grantor" and Freedom Bank, the "Trustee".

The List of wells covered by this Letter of Credit are as follows:

Jody Field #34-1 – SESESW-Section 34-T29N-R6W – Pondera County, MT API No. 25-073-21830 - \$23,351.00

Jody Field #34-2 – NENWSW-Section 24-T29N-R6W – Pondera County, MT API No. 25-073-21838 – \$23,006.00

EPA ID	API	WELL NAME	LOCATION	COST	ESTIMATE DATE (if O/O provides estimate)
				1	T
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			****		
	77.37.47.60.60.60.60.60.60.60				
			and the second second second second		
	-				

# SCHEDULE B

# Description of Property / Financial Instrument

[Surety, Letter of Credit, etc.]

Schedule B is referenced in the Standby Trust Agreement (Section 3) dated <u>October</u> 10, 2022 by and between Montalban Oil & Gas Operations, Inc., the "Grantor," and Freedom Bank, the "Trustee."

Description of Property/Financial Instrument:

1. Letter of Credit

# CERTIFICATE OF ACKNOWLEDGEMENT FOR STANDY TRUST FUND AGREEMENT

STATE OF :	Montana	
COUNT OF :	Glacier	_
		_
On this10th	day of <u>October</u> , 20 <u>2</u>	3 before me personally came
Patrick M. Montalban	to me known, who, b	eing by me duly sworn, did depose
(Owner or Opera	tor)	
and say that he/she resid	les atCut_Bank, MT	, that he/she is
	(Address)	
President	of Montalban O	il & Gas Operations, Inc
(Title)	(Corpor	ration)

the corporation described in and which executed the above instrument; the he/she knows the seal of said corporation; that the seal affixed to such instrument in such corporation seal; that is was so affixed by order of the Board of Directors of said corporation, and that he/she signed his/her name thereto by like order.

CARLA R BARRINGER
NOTARY PUBLIC for the
State of Montana
Residing at Conrad, Montana
My Commission Expires

De - 1 9, 2023



U.S. Environmental Protection Agency (EPA)
UIC Financial Coordinator
U.S. Environmental Protection Agency, Region 8
1595 Wynkoop Street
Denver, CO 80202-1129

October 10, 2022

Re: Letter of Credit #50

Name: Montalban Oil & Gas Operations, Inc.

Amount: \$46,357

To Whom it may concern:

We hereby establish our Irrevocable Standby Letter of Credit No. 50 in your favor, at the request and for the account of Montalban Oil & Gas Operations, Inc., a Montana Corporation at P.O. Box 200, Cut Bank, MT 59427 up to the aggregate amount of Forty-Six Thousand Three Hundred Fifty-Seven Dollars [\$46,357.00)] available upon presentation of the following documentation by U.S. Environmental Protection Agency Regional Administrator of Region 8:

- 1. Your sight draft, bearing reference to this letter of credit No 50, and
- 2. Your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of the Safe Drinking Water Act".

This letter of credit is effective as of October 10, 2022 and shall expire on October 10, 2023, but such expiration date shall be automatically extended for a period of 1 year on October 10, 2023 and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and Montalban Oil & Gas Operations, Inc., by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and Mogo Reagan, LLC, as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of Montalban Oil & Gas Operations, Inc., in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in 40 CFR 144.70(d) as such regulations were constituted.

Don Bennett, President of Freedom Bank

Company: MOGO INC.

Well: P&A Jody Field 34-1

Date: 10/06/22

MIRU service rig and cementing equip. release packer and TOH. Round trip casing scraper to 3400'. TIH with 4.5" CICR set at 3380'. Establish rate and squeeze 35 sx cement, sting out and spot 10 sx on top. trip out to 3200' roll hole with gel fluid, trip out to 2800', balance 12 sx cement. Stand back 690' pipe, lay out rest. SDFN crew travel to Cut Bank.

Day 2

Crew travel to location, hold safety meeting and start up equip. trip in hole with casing ripper and rip at 685'. Trip out tool, swedge casing, establish circulation, pump 130 sx cement around for returns up annulas. Shut in well, rig down all equipment. Dig out well 6' below surface, cut and cap well @ 4' below ground level. Reclaim well hole and working pit. Travel to town.

Unit Price	#ea	<b>Equipment</b>	Day 1	Day 2	Day 3	Day 4	Total
\$260.00 hr	1	Rig	10	6			<del></del>
\$50.00 hr	8	Crew trave hr	1	1			\$800.00
\$55.00 day	1	Daily Pickup charge	3	3			\$330.00
\$450.00 day	1	Supervisor /tool pushe	2	2			\$1,800.00
\$0.00 ea/day	1	Subsistence					\$0.00
\$1,600.00 well/day	1	Cement Pump Truck	1	1			\$3,200.00
\$4.00 mile	1	Pump Truck Mileage	45				\$180.00
\$750.00 well/day	1	Cement Bulk Truck	1	1			\$1,500.00
\$4.00 mile	1	Bulk Truck Mileage	45				\$180.00
\$23.00 sac	1	Bulk Cement	57	130			\$4,301.00
\$125.00 hr	1	Water Truck	10	6			\$2,000.00
\$100.00 hr	1	Welding Truck		2			\$200.00
\$100.00 hr	1	Backhoe	4	4			\$800.00
\$50.00 per day	1	enviro/safety	1	1			\$100.00
\$2,100.00 ea	1	CICR	1				\$2,100.00
\$100.00 ea/well	1	WS tralier	1	1			\$200.00
\$1.25 per lb	1	CaCl					\$0.00
\$1,500.00 per rip	1	casing ripper		1			\$1,500.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
						TOTAL	<b>\$23,351.00</b>

Company: MOGO INC.

Well: P&A Jody Field 34-2

Date: 10/06/22

MIRU service rig and cementing equip. release packer and TOH. Round trip casing scraper to 3400'. TIH with 4.5" CICR set at 3390'. Establish rate and squeeze 20 sx cement, sting out and spot 10 sx on top. trip out to 3200' roll hole with gel fluid, trip out to 2090', balance 12 sx cement. Stand back 675' pipe, lay out rest. SDFN crew travel to Cut Bank.

Day 2

Crew travel to location, hold safety meeting and start up equip. trip in hole with casing ripper and rip at 685'. Trip out tool, swedge casing, establish circulation, pump 130 sx cement around for returns up annulas. Shut in well, rig down all equipment. Dig out well 6' below surface, cut and cap well @ 4' below ground level. Reclaim well hole and working pit. Travel to town.

Unit Price	#ea	Equipment	Day 1	Day 2	Day 3	Day 4	Total
\$260.00 hr	1	Rig	10	6			\$4,160.00
\$50.00 hr	8	Crew trave hr	1	1			\$800.00
\$55.00 day	1	Daily Pickup charge	3	3			\$330.00
\$450.00 day	1	Supervisor /tool pushe	2	2			\$1,800.00
\$0.00 ea/day	1	Subsistence					\$0.00
\$1,600.00 well/day	1	Cement Pump Truck	1	1			\$3,200.00
\$4.00 mile	1	Pump Truck Mileage	45				\$180.00
\$750.00 well/day	1	Cement Bulk Truck	1	1			\$1,500.00
\$4.00 mile	1	Bulk Truck Mileage	45				\$180.00
\$23.00 sac	1	Bulk Cement	42	130			\$3,956.00
\$125.00 hr	1	Water Truck	10	6			\$2,000.00
\$100.00 hr	1	Welding Truck		2			\$200.00
\$100.00 hr	1	Backhoe	4	4			\$800.00
\$50.00 per day	1	enviro/safety	1	1			\$100.00
\$2,100.00 ea	1	CICR	1				\$2,100.00
\$100.00 ea/well	1	WS tralier	1	1			\$200.00
\$1.25 per lb	1	CaCl					\$0.00
\$1,500.00 per rip	1	casing ripper		1			\$1,500.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
*							\$0.00
							\$0.00
							\$0.00
						<u>TOTAL</u>	<u>\$23,006.00</u>

Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

Attachment G
Site Security and Manifest
Requirements (Commercial
Wells Only)

# **CONTENTS**

1. Site Security and Wastewater Manifesting

2

# **FIGURES**

Figure 1. Site Security and Access

# 1. SITE SECURITY AND WASTEWATER MANIFESTING

The injection facility is located on private land, which is fenced and gated by the landowner. Trucks enter via a single access point from Range View Road into the injection facility. As indicated on Figure 1, the landowner's residence is located adjacent to the facility. The site will be monitored 8 to 12 hours per day by the operator, along with observation by the landowner during his rounds each day. Wells Jody Field 34-1 and 34-2 are securely enclosed in buildings that are insulated and heated for winter operations.

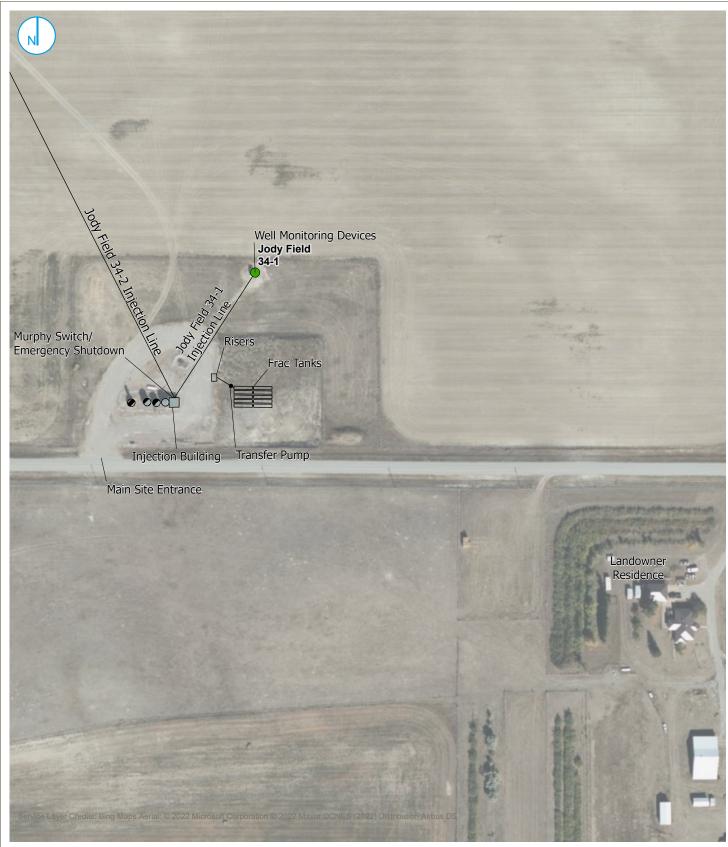
Representative wastewater quality parameters will be provided by Montana Renewables to Montalban Oil & Gas Operations, Inc. prior to commencing initial operations. Sampling of pH will be conducted daily at the refinery. At the injection facility, a "tap" will be placed at a conveniently accessible location on the discharge line of the pump that leads to the injection wells. A representative water sample will be collected quarterly for submittal to EPA.

Attachment G
Site Security and Manifest Requirements
(Commercial Wells Only)

# **Privileged and Confidential**

# **FIGURES**

Figure 1. Site Security and Access



PROJECT: 169000XXXX | DATED: 9/15/2022 | DESIGNER: CHURCHKE Map Scale: 1:3,000 | Map Center: 112°22'13"W 48°13'19"N

Active Injection

# SITE SECURITY AND ACCESS

**MONTALBAN OIL AND GAS** OPERATIONS INC - AREA WIDE UIC APPLICATION **JODY FIELD WELLS** 

# **Attachment G** Figure - 01

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY



Out of Service Equipment

C:\Users\ChurchKE\OneDrive - Ramboll\GIS Projects\Montana Oil\MontanaOil\_AOR\MontanaOil\_AOR.aprx\Att. G Figure 01

250 **\_\_\_** Feet

KEY MAP (not to scale)

Prepared by
Ramboll US Consulting
Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

Attachment H
Underground Injection Control
Program: Madison Aquifer
Exemption Request



Introduction

2

#### **Privileged and Confidential**

#### **CONTENTS**

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# **EXHIBITS**

Exhibit A. Water Quality Analysis Wells Jody Field 14-34 and 4-1

Exhibit B. Powers Farm 29-1 Density/Neutron Log

Figure AE.15. Private and Public Water Wells

# 1. INTRODUCTION

Montalban Oil & Gas Operations, Inc (Montalban) submitted an area-wide underground injection control (UIC) permit application to USEPA Region 8 for conversion of two (2) existing Class II UIC wells and two (2) shut-in oil and gas wells to Class V UIC wells for injection of industrial wastewater to be received from Montana Renewables, a renewable fuels refinery located in Great Falls, Montana. The wells are located in the Loneman Coulee Oil Field north of Great Falls in Pondera County, Montana (**Figure AE.01**).

The application involves a phased approach with initial conversion of the two Class II wells and subsequent conversion of the two shut-in oil and gas wells at a later date to accommodate future wastewater volumes from the refinery.

The Class II wells are currently permitted by the Montana Department of Natural Resources & Conservation (DNRC) Board of Oil and Gas Conservation (BOGC) and have been granted aquifer exemptions for injection of oilfield produced water into the Madison Aquifer. The wells and aquifer exemptions are identified as follows:

Well Jody Field 34-1 Section 34-Township 29 North, Range 6 West Pondera County, Montana API No. 25-073-21830 Well Depth: 3,530'

Injection Formation: Madison/Sun River Dolomite

Injection Interval: 90'

Aquifer Exemption Number: 8-1681 (08/15/2011)

Jody Field No. 34-2 Section 34-Township 29 North, Range 6 West Pondera County, Montana API No. 25-073-21838 Well Depth: 3,491'

Injection Formation: Madison/Sun River Dolomite

Injection Interval: 73'

Aguifer Exemption Number: 8-1008 (03/15/2010)

The areal extent of the current aquifer exemptions are 0.19635 square miles each. Because the current exemptions are specific to injection of oilfield waste into Class II UIC wells, Montalban is requesting a new Area-Wide Aquifer Exemption for injection of industrial wastewater into the proposed Class V UIC wells (Figure AE.02).

The two (2) shut-in oil and gas wells to be included in the Aquifer Exemption Area will be completed in the Madison Aquifer and are identified as follows:

Well Jody Field 4-1A Section 4- Township 28 North, Range 6 West Pondera County, Montana API No. 25-073-21842 Well Depth: 3,442'

Well Jody Field No. 14-34 Section 34-Township 29 North, Range 6 West Pondera County, Montana API No. 25-073-21740 Well Depth: 3,415'

The following application demonstrates the regulatory basis for requesting the new aquifer exemption based on water quality criteria and the fact that the aquifer within the area of interest is not anticipated to serve as a public drinking water source as required under Title 40, Code of Federal Regulations (40 CFR), Parts 146.4(a) and 146.4(c). This application also delineates the proposed Aquifer Exemption Area based on the aquifer characteristics, confining layers, areawide UIC permit boundary, Area of Review (AoR) and anticipated injection volumes over the life of the refinery.

# 2. LAND USE

The proposed UIC wells are located within the Loneman Coulee Oil Field in Pondera County, Montana. The land within the requested exemption area is used for oil and gas related activities and agriculture. The identities of the landowners are provided in **Figure AE.03** and detailed in **Table 1** below.

TABLE 1. Landowners within the Aquifer Exemption Area				
Landowner	Parcel #	Use		
Field, Jody	26-4096-34-4-04-01-0000	Agricultural		
Vandenbos, William D & Tamara K JTRos	26-4096-33-4-01-01-000	Agricultural		
Vandenbos, Keith E & Leiha R. JTRos	26-4096-33-1-01-01-0000	Agricultural		
Field, Jody	26-4096-34-2-03-03-0000	Agricultural		
Field, Jody	26-4096-34-1-03-01-0000	Agricultural		
Field Ranch Inc.	26-3984-03-2-02-02-0000	Agricultural		
Field Ranch Inc.	26-3984-04-1-01-01-0000	Agricultural		
Field Ranch Inc.	26-3984-04-2-02-01-0000	Agricultural		
Vandenbos, William D & Tamara K JTRos	26-4096-33-4-01-01-000	Agricultural		

#### 2.1 Geology

#### 2.1.1 Geological Structure of the Madison Aquifer

The Madison Aquifer is part of the Northern Great Plains aquifer system, which extends across Montana, Wyoming, North Dakota, and South Dakota and lies beneath confining units in the proposed aquifer exemption area (**Figure AE.04**) (USGS, 1996). The Madison Aquifer in this area is comprised of the Mississippian Madison Limestone, which includes the Lodgepole Limestone, overlain by the Mission Canyon Limestone. The deposits consist of marine carbonates and evaporites deposited in a shallow water environment (Downey, 1984). The Lodgepole Limestone consists mainly of fossiliferous to micritic dolomite and limestone units. The Mission Canyon Limestone consists of a coarsely crystalline limestone at its base, grading upward to finer crystalline limestone. Because of the solubility of the Madison Limestone carbonate rocks, the development of karst features is common, including enlarged joints, sink holes, caves and solution breccias, resulting in secondary permeability within the units. Downey (1984) indicated that within the Madison Aquifer, "fracture interconnection between zones of greater permeability appear to be the major route of water flow." The thickness of the Madison Limestone in northwestern Montana is mapped at approximately 1,000 to 1,200 feet as illustrated on **Figure AE.05** (Downey, 1984).

The Class II UIC wells (Jody Field wells 34-1 and 34-2) are completed within the Sun River Dolomite, the uppermost section of the Mission Canyon formation. The Sun River Dolomite ranges up to an average of approximately 200 feet thick in this area with the Mission Canyon and Lodgepole extending approximately 1,000 feet in thickness beneath that (Pasternack, 1988). A cross section was prepared based on well data gathered from Montana BOGC records (**Figures AE.06 and AE.07**). As indicated in the cross section, the Sun River Dolomite, in close proximity to the proposed Class V wells, is approximately 250 feet thick. The thickest completed injection interval in the existing Class II UIC wells is 90 feet thick.

The Sun River Dolomite has been studied extensively for its hydrocarbon production potential and was determined to have an average porosity of 8 to 14% and average permeability of 10 to 82 millidarcy (md) with the highest values observed in the Pondera Field. **Figure AE.08** indicates the porosity values mapped in the Pondera field and surrounding areas. According to Pasternack (1988), two dominant porosity types lie within the Sun River Dolomite; moldic porosity in discreet areas developed from dissolution of bioclastic debris and fracture porosity, which is evident throughout all areas of the Sun River Dolomite. Bioclastic debris is deposited as shallow marine bars oriented northwest-southeast. As indicated on **Figure AE.08**, the Jody Field wells are located within a bioclastic debris trend that intersects the Pondera and Highview Fields and have a bioclastic debris composition greater than 20%, inferring a high percentage of moldic porosity. The Class II Aquifer Exemptions established for this area by the Montana DOGC are based on a porosity in the range of 14% (telephone conversation with George Hudak, July 2022) and confirmed in regional well logs.

#### 2.1.2 Confining Zones

The Madison Aquifer is bounded by confining layers that separate it from the Lower Paleozoic and Lower Cretaceous aquifers (**Figure AE.09**).

The Madison Limestone is overlain by the unconforming confining units of the Jurassic Ellis Group, which consists of the Swift, Rierdon and Sawtooth (Piper) formations. The Ellis Group forms a confining layer between the Mississippian and lower Cretaceous aquifers and is present within the UIC wells above the Madison Sun River Dolomite (**Figures AE.10** and **AE.11**).

According to USGS (2022), The Sawtooth formation in Western Montana consists of dark gray, platy to shaly, dense limestone with a local basal conglomerate. The Rierdon Formation includes gray, locally fossiliferous limestone that may contain quartz sand interbedded with greenish gray limy shale. The Swift Formation includes glauconitic, flaggy-bedded, commonly fossiliferous, fine-grained sandstone or sand coquina with dark gray shale interbeds. A dark gray, noncalcareous, micaceous shale forms the lower part of the formation, commonly with a basal chert pebble conglomerate or conglomeratic sandstone. Based on review of local well logs, the total thickness of the confining units within the Ellis group is over 220 feet.

Logs reviewed from oil and gas wells in the region indicate that the Sun River Dolomite ranges up to as much as 300 feet thick beneath the Ellis Group. Review of well logs from two nearby wells drilled deeper into the Madison indicate the presence of a dense, cherty unit with a minimum thickness of 108 feet to 147 feet directly beneath the Sun River Dolomite (API #25-073-05457 and API #25-073-05439). This unit was documented to have low to no porosity.

The confining units beneath the Mississipian Madison Formation include Silurian and Devonian units consisting mainly of shaly carbonates, shale, and evaporites (**Figure AE.12**). Because of the fine-grained lithology and the presence of evaporites in the Silurian and Devonian units, these formations are considered to be confining beds between the Mississippian aquifer and the underlying Cambrian-Ordovician aquifer (Downey, 1984). Hydrologic modeling results of Downey (1984, 1986) indicate that vertical hydraulic conductivity between the Cambrian-Ordovician and Madison aquifers is less than 10-6 ft/d throughout the study area.

The Devonian Duperow formation, which is separated from the Madison Aquifer by the Three Forks formation, was recently classified as an underground source of drinking water (USDW) in central Montana due to intervals of total dissolved solids (TDS) concentrations less than 10,000 mg/L and greater than 3,000 mg/L. The thickness of the confining layer (Three Forks formation) in the proposed Aquifer Exemption Area between the Madison and underlying Duperow aquifer is approximately 200 feet (Pasternack, 1988). Review of well logs of the easternmost well depicted on the cross section (API #25-073-21523) indicate that the Duperow formation in this area of Montana is impermeable from the top of the formation to a thickness of at least 208 feet (Exhibit B).

#### 2.1.3 Depth and Thickness of the Madison Aquifer

The thickness of the Madison Aquifer in the proposed aquifer exemption area ranges between 1,100 and 1,200 feet (Downey, 1984), as indicated on **Figure AE.05**. The depth below the surface to the Madison is reported at 3,428' in Jody Field 34-1 and 3,438' in Jody Field 34-2 (**Figures AE.10** and **AE.11**). The aquifer exemption is requested within the Sun River Dolomite, which is approximately 250 feet thick in the proposed Aquifer Exemption Area based on review of well data filed by Conoco for a well located immediately west of the Aquifer Exemption Area (API No. 25-073-05439) (**Figures AE.06 and AE.07**).

#### 2.2 Water Quality

The primary minerals within the Madison Limestone include calcite, dolomite and anhydrite, with dissolution of anhydrite and dolomite largely contributing to the water quality throughout the aquifer (Busby, 1991). The presence of hydrogen sulfide odor in the wells analyzed by the USGS was also noted during sampling and determined to be due in part to a terrigenous source of sulfur which has been noted in the proposed Aquifer Exemption Area (Telephone conversation with George Hudak, July 2022).

Due to the presence of anhydrites, the TDS concentrations in the Madison Aquifer vary greatly from less than 1,000 mg/L to greater than 300,000 mg/L depending on the location within the formation and groundwater flow characteristics (Downey, 1984). According to George Hudak, UIC Coordinator, Montana BOGC, the TDS concentration in the proposed Aquifer Exemption Area ranges above 5,000 mg/L.

The Montana Bureau of Mines and Geology mapped TDS concentrations in the immediately surrounding areas. The data, collected from oil tests or production wells between 1920 and 1977, indicated TDS concentrations in the Sun River Dolomite ranging from around 4,490 to 6,660 mg/L and TDS concentrations in the Madison Formation ranging from around 3,240 to 7,100 mg/L (Feltis, 1980b). A water sample collected from Well 14-34 (API #25-073-21740), which is centrally located within the Aquifer Exemption Area, reported a TDS concentration of 5,440 mg/L (Exhibit A). A water sample collected from Well 4-1 (API#25-073-21824) indicated a calculated TDS concentration of 5,109 mg/L (Exhibit A).

# 3. PERMIT AREA FOR THE AQUIFER EXEMPTION

The Madison Aquifer injection zone in Well Jody Field 34-1 ranges from a depth of 3,440 feet to 3,530 feet for a total injection interval of 90 feet within the Madison/Sun River Dolomite. The injection zone in Well Jody Field 34-2 ranges from a depth of 3,418 feet to 3,491, for a total injection interval of 73 feet. Regional groundwater flow direction through the southern and eastern portion of the Madison Aquifer is northeastward (USGS, 1996). A potentiometric surface map generated by the Montana Bureau of Mines and Geology based on local oil and gas well data indicates a northward groundwater flow direction in the vicinity of the Aquifer Exemption Area (Feltis, 1980a). The proposed Aquifer Exemption Area is located on the western edge of the Great Plains, west of the Sweetgrass Arch and east of the Rocky Mountains Region. There are no mapped or known faults within the Aquifer Exemption Area.

According to Pasternack (1988), the average porosity and permeability values for the Madison/Sun River Dolomite in the area of the requested aquifer exemption are 14% and 82 md respectively. Review of well logs indicated porosities in the upper Madison Formation of up to 20%. A conservative estimate of 14% was selected and the Montana BOGC agreed that a porosity of 14% would be representative of the injection intervals in the Jody Field Wells (Telephone conversation with George Hudak, July 2022). A radius of ½ mile was calculated for each well, and based on that distance, an area-wide boundary was plotted to encompass the extent of the radii for the current and future proposed injection wells and to align with a more

conservative area of review (AoR) **Figure AE.02**). The calculated area within the Area-Wide Aquifer Exemption boundary is 3.3 square miles.

The thickness of the Madison/Sun River Dolomite is approximately 150 feet thick in the proposed Aguifer Exemption Area (Pasternak, 1988), with nearby well logs indicating a thickness up to approximately 250 feet. However, a conservative thickness of 90 feet was used to calculate the available storage volume. Based on these parameters, the available storage volume within the aguifer exemption area is a probable 275.3 MMBBL. Wastewater volumes generated from Montana Renewables will commence at approximately 1,600 to 1,800 barrels per day (BPD) and increase over time to a maximum of 3,600 BPD. The volume sent to each of the Class V wells will be dependent on the operational capacity of the permitted wells. Injection into the Class V wells would be performed within the permitted maximum allowable injection pressures (MAIP) for each well and would not exceed the fracture pressure gradient of the formation, mitigating the risk of fluid migration outside of the permitted Aquifer Exemption Area. Based on a facility life of 40 years, the maximum volume of wastewater from Montana Renewables that would be injected at a maximum flow rate of 3,600 BPD is 52.6 million barrels (MMB), which would be anticipated to encompass an area of approximately 0.84 square miles. Thus, the proposed area of 3.3 square miles represents a very conservative aquifer exemption boundary allowing for any unanticipated geologic complexities.

# 4. BASIS FOR DECISION

#### 4.1 Regulatory Criteria Under Which the Exemption is Requested

Exemption of the Madison aquifer is requested on the basis that it is not currently used as a drinking water source as required under 40 CFR 146.4(a). Additionally, the Madison Aquifer is located at a depth of over 3,400 feet in the proposed Aquifer Exemption Area, beneath other accessible aquifers and thick confining layers. In accordance with 40 CFR Part 146.4 (b)(2), the Madison aquifer in this area is situated at a depth or location which makes recovery of groundwater for drinking water purposes economically or technologically impractical. Furthermore, TDS concentrations exceeding 5,000 mg/L have been measured in the Madison Aquifer within the Aquifer Exemption Area. Under 40 CFR Part 146.4(c), TDS concentrations greater than 3,000 and less than 10,000 mg/L are not reasonably expected to supply a public water system. Both criteria qualify the Madison Aquifer in this area for an aquifer exemption.

#### 4.2 Assessment of the Madison Aquifer as a Source of Drinking Water

The Madison Aquifer in this area is measured at a depth greater than 3,400 feet and is separated from other shallow, accessible USDWs by several hundred feet of confining layers. The Madison/Sun River Dolomite section of the Madison Group is hydrocarbon producing (Gaswirth, 2010). Oil was first discovered in the Madison Formation in the area in the nearby Pondera Field in the 1920's (Hennip, 1973). The oil and gas wells in this area have either been plugged and abandoned, shut-in, or converted to injection wells (**Figure AE.13**).

Pondera County measures 1,640 square miles and is located approximately 90 miles northwest of Great Falls, which is the third largest city in Montana with a population of 58,700 (**Figure AE.14**). The population of Pondera County has declined steadily over the past several decades

and according to the Census Bureau had declined to below 6,000 in 2021. Agricultural production employed 45% of the County's labor force in 2017, and agricultural land accounted for 25% of the county's tax base (Montana State University, 2022). The median household income in 2020 was \$30,464 (Wikipedia, 2022).

The population is served by nine (9) small water systems that draw from shallow groundwater wells and local reservoirs, as well as privately owned shallow water wells. The Madison Aquifer is not currently used as a drinking water supply in the proposed Aquifer Exemption Area. Most of the shallow Quaternary aquifers are comprised of unconsolidated alluvial deposits from the surrounding mountains (Noble, 1982bb). According to Noble (1982), these aquifers are primarily water-table aquifers, and groundwater movement follows the topography in a downstream direction. Recharge to the shallow alluvial aquifers is primarily through rainfall and snowmelt. Deeper Tertiary aquifers in the area range from depths of 100 to 300 feet and include coarse grained interbedded sandstones, channel conglomerates, tuffs and siltstones (Noble, 1982b). Alluvial aquifers are the most used aquifers in the Great Plains region of Montana, due to their high yields and proximity to agricultural land (Noble, 1982a).

Given several factors, including the more remote location of the proposed Aquifer Exemption Area, current demographics and availability of a drinking water sources within the shallower alluvial deposits, depth to the Madison Aquifer and its water quality (i.e., documented high TDS concentrations and potential presence of hydrogen sulfide), it is unlikely that the Madison Aquifer will ever be developed as a public drinking water supply for this area.

#### 4.3 Private and Public Wells Drinking Water Wells

**Figure AE.15** indicates the locations of nearby private and public water wells. Only one well is located within the proposed Aquifer Exemption Area:

Montana Groundwater Information Center (GWIC) Well ID: 81476

Well Owner: Field, C.W. Jr., Route #1, Valier, MT 59486

Aquifer: Unknown

Use: Domestic and Stockwater Date Completed: January 19, 1953

Total Depth: 109 feet Static Water Level: 17 feet

**Figure AE.15** indicates four (4) water wells are located in the near vicinity outside of the proposed Aquifer Exemption Area (**Table 2**). Well #83374 is an agricultural well completed to a depth of 207 feet with a static water level of 160 feet.

TABLE 2. Nearby Private and Public Wells Outside the Aquifer Exemption Boundary – Source: Montana Groundwater Information Center (GWIC)

Well Owner Information	Aquifer	Date Completed	Well ID and Use	Well Depth (ft)	Static Water Level (ft)
Allen, John E. Valier, MT 59486	Sandstone Unit	12/27/1963	#83374 - Agricultural	207	160
Fed Land Bank 1	Unknown	Unknown	#915142 - NA	Unknown	Unknown
Allen 1	Unknown	Unknown	#915479 - NA	Unknown	Unknown
Pondera County Canal & Reservoir Co. Valier, MT 59486	Unknown	12/16/1963	#83372 - Domestic	Unknown	13

# 5. CONCLUSION

The proposed Aquifer Exemption Area is calculated based on conservative parameters of 14% porosity and an aquifer thickness of 90 feet, resulting in a calculated storage capacity of 275.3 MMBBL. Sufficient storage exists for injection of wastewater from Montana Renewables within the proposed Aquifer Exemption Area. Thick confining layers are present above and below the Madison Aquifer, preventing migration of injected fluids into surrounding USDWs. Injection into the Class V wells would be performed within the permitted maximum allowable injection pressures (MAIP) for each well and would not exceed the fracture pressure gradient of the formation, mitigating the risk of fluid migration outside of the Aquifer Exemption Area. No water wells are supplied by the Madison Aquifer in this area. Due to its depth (>3,000 ft) and TDS concentrations (> 5,000 mg/L), it is not anticipated that this aquifer would be used as a drinking water supply. Sufficient water resources exist in the area at depths ranging from less than 207 feet.

#### 6. REFERENCES

Busby John F, et al., Geochemical Evolution of Water in the Madison Aquifer in Parts of Montana, South Dakota, and Wyoming, U.S. Geological Survey Professional Paper 1273-F, 1991

Downey, Joe S., Geohydrology of the Madison and Associated Aquifers in Parts of Montana, North Dakota, South Dakota, and Wyoming; Geology and Hydrology of the Madison Limestone and Associated Rocks in Parts of Montana, Nebraska, North Dakota, South Dakota and Wyoming, U.S. Geological Survey Professional Paper 1273-G, 1984

Feltis, R.D., Potentiometric Surfac Map of Water in the Madison Group, Montana, Montana Bureau of Mines and Geology, Hydrogeologic Map 2, 1980a

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Noble, Roger A., et al, Occurrence and Characteristics of Groundwater In Montana, Volume 2, The Rocky Mountain Region, Montana Bureau of Mines and Geology, 1982b

Pasternack, Ira, Nature and Distribution of Mississippian Sun River Dolomite Porosity, West Flank of the Sweetgrass Arch, Northwestern Montana, August 16, 1988

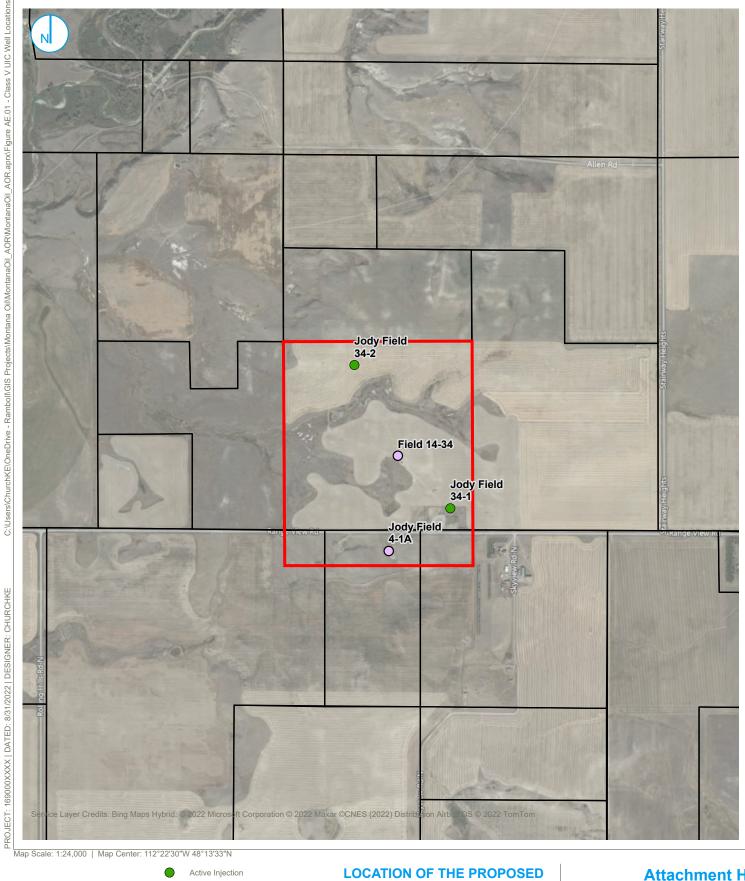
US Geological Survey, Ground Water Atlas of the United States: Segment 8, Montana, North Dakota, South Dakota, Wyoming, Hydrologic Investigations Atlas 730-I, 1996

USGS Online Reference, <a href="https://mrdata.usgs.gov/geology/state/sgmc-unit.php?unit=MTJe%3B0">https://mrdata.usgs.gov/geology/state/sgmc-unit.php?unit=MTJe%3B0</a>, 2022

Wikipedia, Pondera County, Montana, <a href="https://en.wikipedia.org/wiki/Pondera County">https://en.wikipedia.org/wiki/Pondera County</a>, <a href="mailto:Montana">Montana</a>, <a href="mailto:2022">2022</a>

# **FIGURES**

Figure AE.01.	Location of the Proposed Montalban Oil & Gas Operations, Inc. Class V Wells
Figure AE.02.	Existing and Proposed Aquifer Exemption Areas
Figure AE.03.	Landowners and Land Use within the Aquifer Exemption Area
Figure AE.04.	Aquifers and Confining Units of the Northern Great Plains Aquifer System.
Figure AE.05.	Northern Great Plains Aquifer System, Madison Formation Thickness
Figure AE.06.	Geologic Cross Section Location
Figure AE.07.	Geologic Cross Section
Figure AE.08	Sun River Dolomite Porosity Isopach Map
Figure AE.09.	Northern Great Plains Aquifer System Stratigraphic Column
Figure AE.10.	Jody Field 34-1 Well Log
Figure AE.11.	Jody Field 34-2 Well Log
Figure AE.12.	Thickness of underlying Devonian Confining Layer in the Aquifer Exemption Area
Figure AE.13.	Oil and Gas Wells in the Aquifer Exemption Area
Figure AE.14.	Map of Pondera County
Figure AE.15.	Private and Public Water Wells



# **Attachment H** Figure - AE.01

RAMBOLL US CONSULTING, INC. A RAMBOLL COMPANY

RAMBOLL

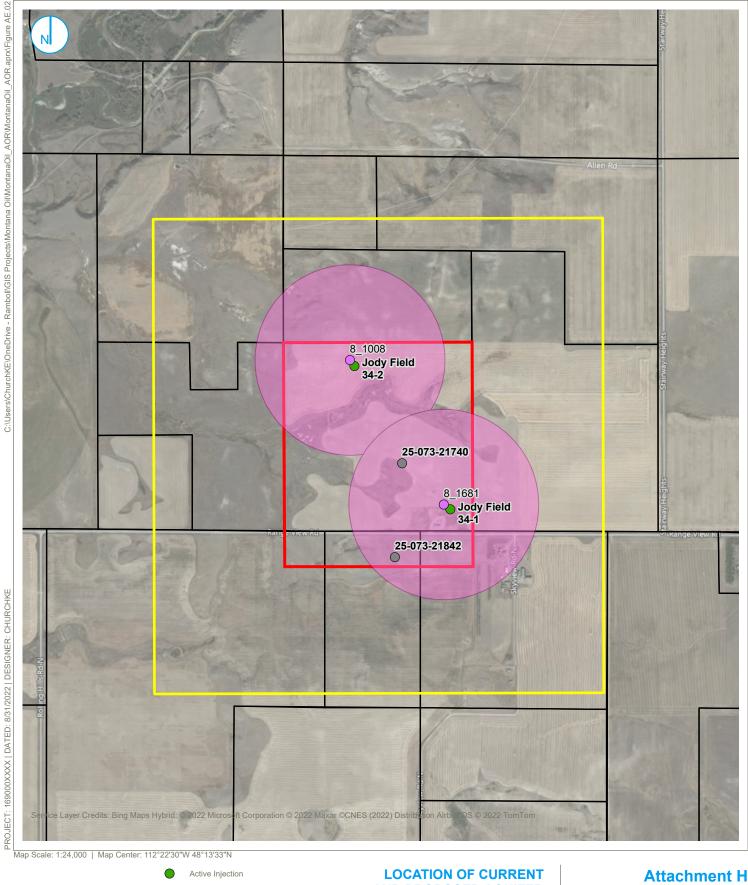
**MONTALBAN OIL AND GAS** 0 Shut-In Well Location **OPERATIONS, INC. CLASS V** Area- Wide UIC Parcel Boundaries

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION **JODY FIELD WELLS** 2,000 1,000

Feet

**WELLS** 

KEY MAP (not to scale)





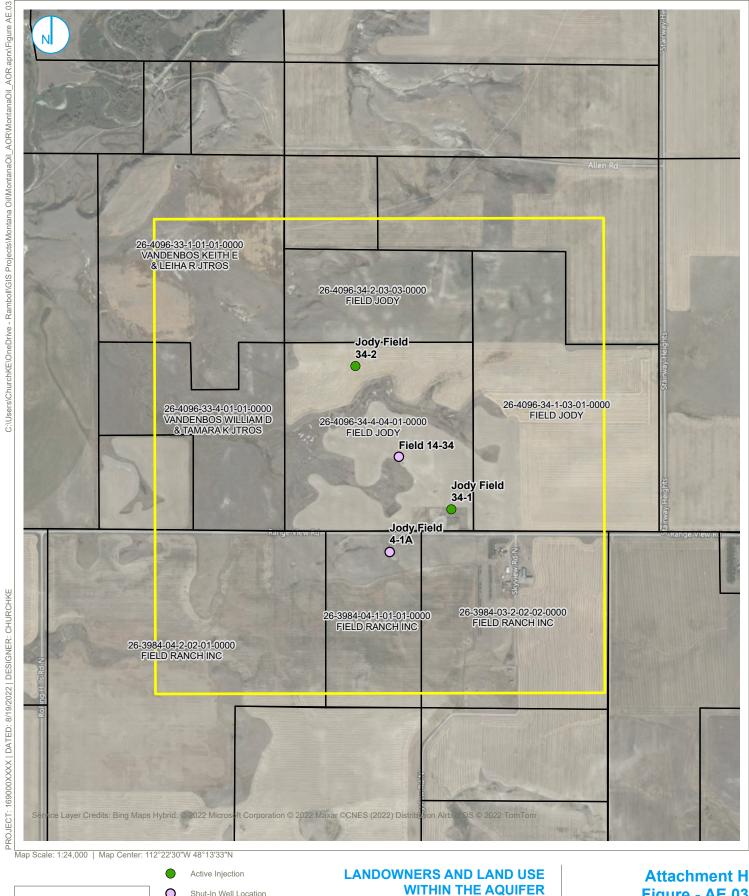
# LOCATION OF CURRENT AND PROPOSED AQUIFER EXEMPTION AREA

MONTALBAN OIL AND GAS
OPERATIONS INC - AREA WIDE
AQUIFER EXEMPTION
APPLICATION
JODY FIELD WELLS

# Figure - AE.02

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY





# Figure - AE.03

RAMBOLL US CONSULTING, INC. A RAMBOLL COMPANY

RAMBOLL

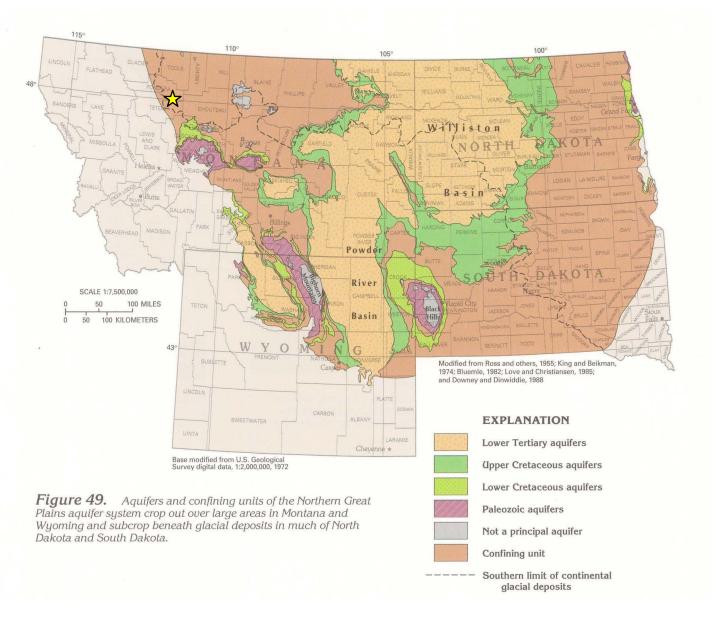
#### 0 Shut-In Well Location Parcel Boundaries 0 Aquifer Exemption Area

KEY MAP (not to scale)

**MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS** 

**EXEMPTION AREA** 

1,000 2,000 ☐ Feet



Geohydrology of the Madison and Associated Aquifers in Parts 🗙 Approximate Site Location of Montana, North Dakota, South Dakota, and Wyoming

By Joe S. Downey

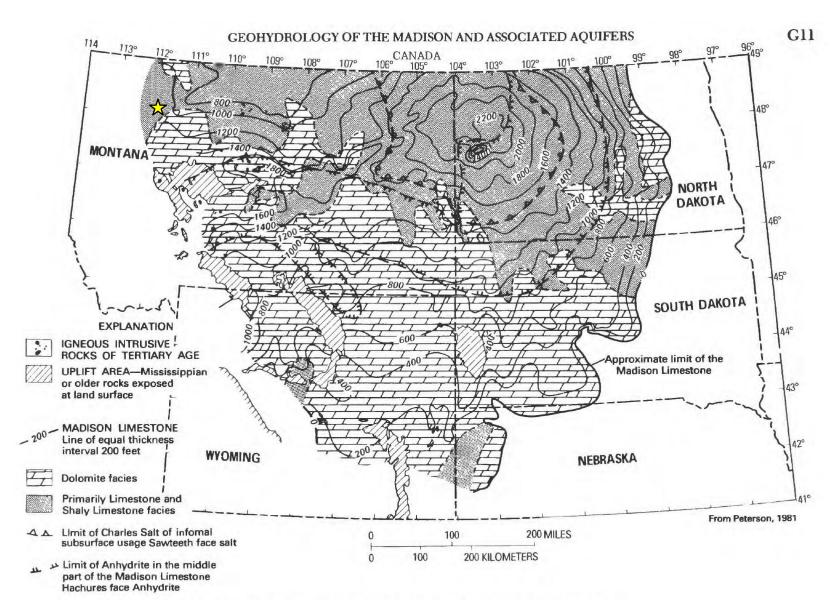
Geology and Hydrology of the Madison Limestone and Associated Rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming

**AQUIFERS AND CONFINING UNITS OF THE NORTHERN GREAT PLAINS AQUIFER SYSTEM MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS** 

# **Attachment H FIGURE AE.04**

RAMBOLL US CONSULTING, INC. A RAMBOLL COMPANY





Geography of the Madison and Associated Aquifers in Parts of 🛧 Approximate Site Location Montana, North Dakota, South Dakota, and Wyoming

By Joe S. Downey

Geology and Hydrology of the Madison Limestone and Associated Rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming

**NORTHERN GREAT PLAINS AQUIFER SYSTEM -MADISON FORMATION THICKNESS MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS** 

# **Attachment H FIGURE AE.05**

RAMBOLL US CONSULTING, INC. A RAMBOLL COMPANY





#### Well Location

- Active Injection
- P&A Approved
- Shut In
- O Dry Hole
- Oil

Cross Section

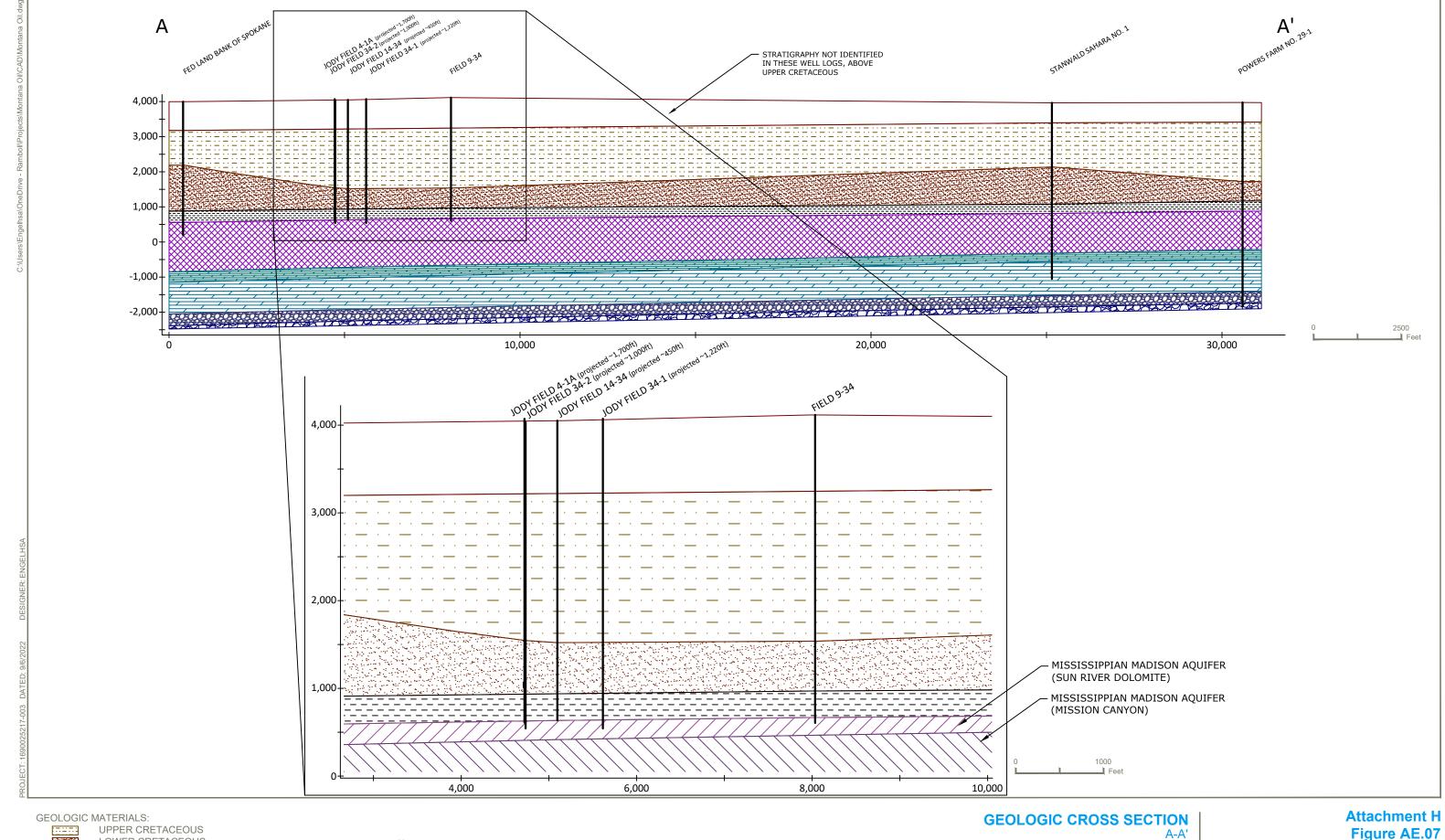
Aquifer Exemption Areas

#### **GEOLOGIC CROSS SECTION LOCATION**

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS

# Attachment H Figure AE.06





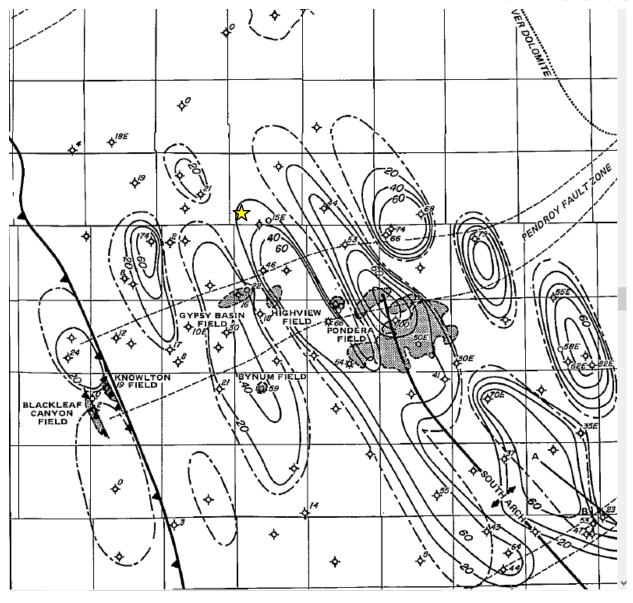
LOWER CRETACEOUS JURASSIC ELLIS GROUP MISSISSIPPIAN MADISON AQUIFER DEVONIAN - THREE FORKS FORMATION DEVONIAN - DUPEROW AQUIFER CAMBRIAN PRE-CAMBRIAN

- 1. 1X Vertical Exaggeration
- 2. Stratigraphy interpolated and extrapolated from well logs within ~2,000ft of cross section line A-A'; using 3D visualization software, Earth Volumetric
- 3. Some wells are projected to the cross section line, projection distance is as identified on this figure (behind well name).

MONTALBAN OIL AND GASOPERATIONS INC AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS

# Figure AE.07





Pasternack, Ira, Nature and Distribution of Mississippian Sun River Dolomite Porosity, West Flan of the Sweetgrass Arch, Northwestern Montana, August 16, 1988



## SUN RIVER DOLOMITE POROSITY ISOPACH MAP

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS

# Attachment H FIGURE AE.08



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$\rightarrow$	oth	ner subdivisio			er River Basin ng and Montana)	(Monta	<b>ston Basin</b> na, North Dakota, South Dakota)	R	ASA study <sup>5</sup>		nis report	Principal lithology
		Quaternary		Į.	Illuvium	Alluvi	um and glacial deposits	T				
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zoic		Miocene	Upper						Not included in aquifer system	i	ot included n aquifer system	
Cenozoic	Tertiary	Oligocene	er	White F	River Formation		White River Formation or Group					
	-	Eocene	Lower	Wasa	tch Formation						Lower Tertiary	Sandstone, some siltstone
		Paleocene		Fort Ur	nion Formation	Fort Union	Formation or Group		Upper Cretaceous		aquifers	Sandstone, some coal
				Land	e Formation	Hell C	Creek Formation		aquifer		Upper	Sandstone, some
				Fox Hi	Ils Sandstone		Hills Sandstone				Cretaceous aquifers	claystone, siltstone and coal
				Lev	vis Shale							
				Mesav	erde Formation	P	ierre Shale					
			Jer	Ste	eele Shale							Shale, some chalk,
			Upper	Co	ody Shale 1		rara Formation arlile Shale	-	Confining		Confining	some bentonite.
	,	Cretaceous					TO STATE OF THE ST	-	layer		unit	Minor sandstone
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Mesozoic					nopolis Shale		Il Creek Shale	-				Shale
ž			e	mem	Fall River		Fall River Sandstone		Lower Cretaceous		Lower Cretaceous	Silate
			Lower	Inyan	Formation	Inyan	Fuson Formation		aquifer		aquifers	Sandstone. Minor
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				Morris	on Formation	Morri	son Formation	S		S		Shale and silty shale
		Jurassic		0 1	F .: 3/	Swif	t Formation 3/	er		er		with interbedded
		Julassic		Sundar	nce Formation 3		n Formation 3/	aquifer		aquifer		sandstone
					Spring Formation	Piper	Formation 3	a	Confining	8		Shale and limestone
		Triassic		Chugw	rater Formation			S	layer	S		
$\neg$				Goose	Egg Formation		rfish Formation	Plains		Plains	0 0	Shale and siltstone
		Permian					kahta Limestone	4		۵	Confining unit	
		Pennsylvanian		Tensleer Sandston	Minnelusa 4 Formation	Amsden Formation	Minnelusa 4	Great	Pennsylvanian aquifer	Great		Interbedded sandstone shale and carbonate rocks. Minor anhydrite
		rennsylvanian		Amsd	en Formation	Tyler Formation	Formation	hern	system	hern		Shale and sandstone
						Big	Snowy Group	Northern	Confining layer	Northern		Shale with some sandstone
		Missississis					Charles Formation				Upper 6/	Constant delay "
		Mississippian		Madis	on Limestone	Madison Group	Mission Canyon Limestone		Mississippian aquifer		Paleozoic aquifers	Limestone, dolomite, and minor anhydrite
200						C. Jup	Lodgepole				aquirers	
302(							Limestone					
Paleozoic				Darb	y Formation	Bakk	en Formation					Shale and siltstone
		Devonian			equivalents		Forks Formation through ern Formation		Confining layer		Confining unit	Shale, shaly limestone, some evaporite beds and salt
		Silurian					ike Formation					Shaly limestone
				Diaba	Whitewood		wall Formation					Limestone, shaly limest
				Bighorn Dolomite			iver Formation					Limestone and dolomit
		Ordovician		Harding Sandstor			peg Formation or Group		Cambrian-		Lower 6	Shale, sandstone, and shaly limestone
								-	Ordovician aquifer		Paleozoic aquifers	
				Galla	tin Limestone				aquiter		aquiioi3	Sandstone, dolomitic li
		Cambrian		Gros Ve	entre Formation	Deady	wood Formation					stone, and shale
				Flathe	ad Sandstone							Sandstone

Locally extends into Upper Cretaceous
 Included in Lower Cretaceous aquifers of this report, where permeable
 Included in Upper Paleozolic aquifers of this report, where permeable
 Included in Upper Paleozolic aquifers of this report, where permeable
 Not differentiated in figure 49

**Figure 50.** Numerous geologic units are part of the Northern Great Plains aquifer system, but only beds of sandstone and carbonate rocks form aquifers. The gray areas represent missing rocks.

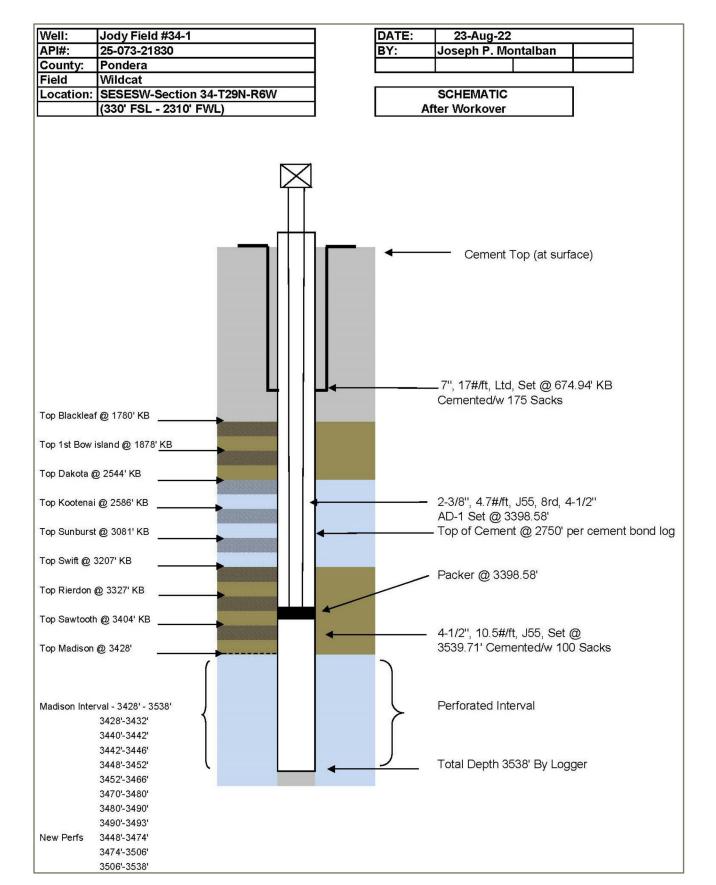
Ground Water Atlas of the United States, Montana, North Dakota, South Dakota, Wyoming HA 730-I

#### **NORTHERN GREAT PLAINS AQUIFER SYSTEM -STRATIGRAPHIC COLUMN**

**MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS** 

#### **Attachment H** Figure AE.09





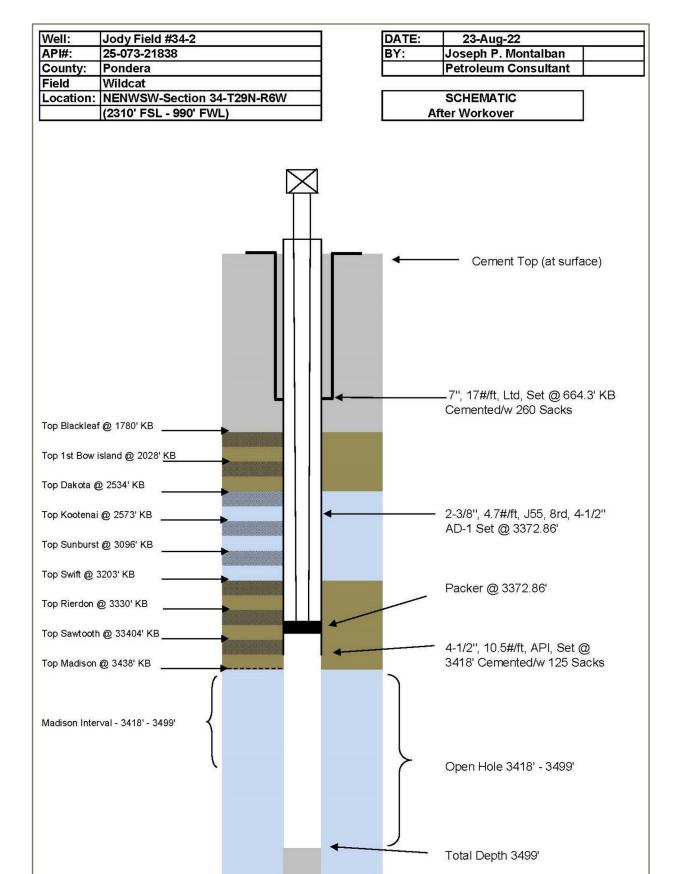


#### WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-1

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS









## WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-2

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS





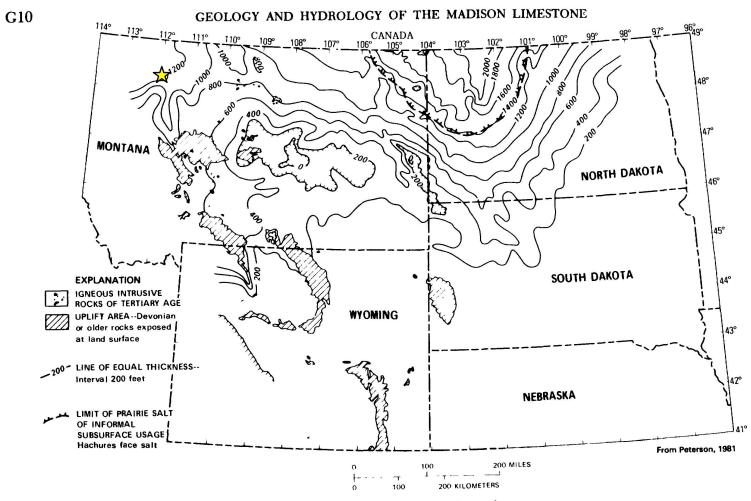


FIGURE 9. - Thickness of Devonian rocks.

Geohydrology of the Madison and Associated Aquifers in Parts Approximate Site Location of Montana, North Dakota, South Dakota, and Wyoming

THICKNESS OF UNDERLYING DEVONIAN **CONFINING LAYER IN THE AQUIFER EXEMPTION AREA** 

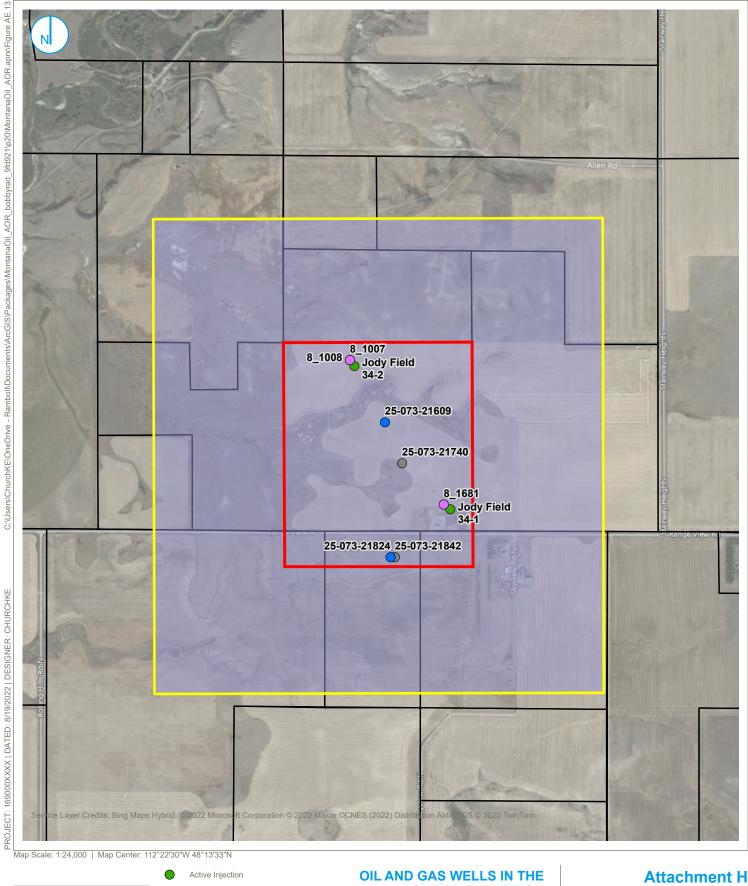
> **MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS**

By Joe S. Downey

Geology and Hydrology of the Madison Limestone and Associated Rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming







# Active Injection P&A - Approved Shut In OIL AND GAS WELLS IN THE AQUIFER EXEMPTION BOUNDARY

Area of Review

Aquifer Exemption Area

KEY MAP (not to scale)

Aquifer Exemption Location

Parcel Boundaries

Area- Wide UIC

MONTALBAN OIL AND GAS
OPERATIONS INC - AREA WIDE
AQUIFER EXEMPTION APPLICATION
JODY FIELD WELLS

1,000

2,000

\_ Feet

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY

RAMBOLL

Figure AE.13

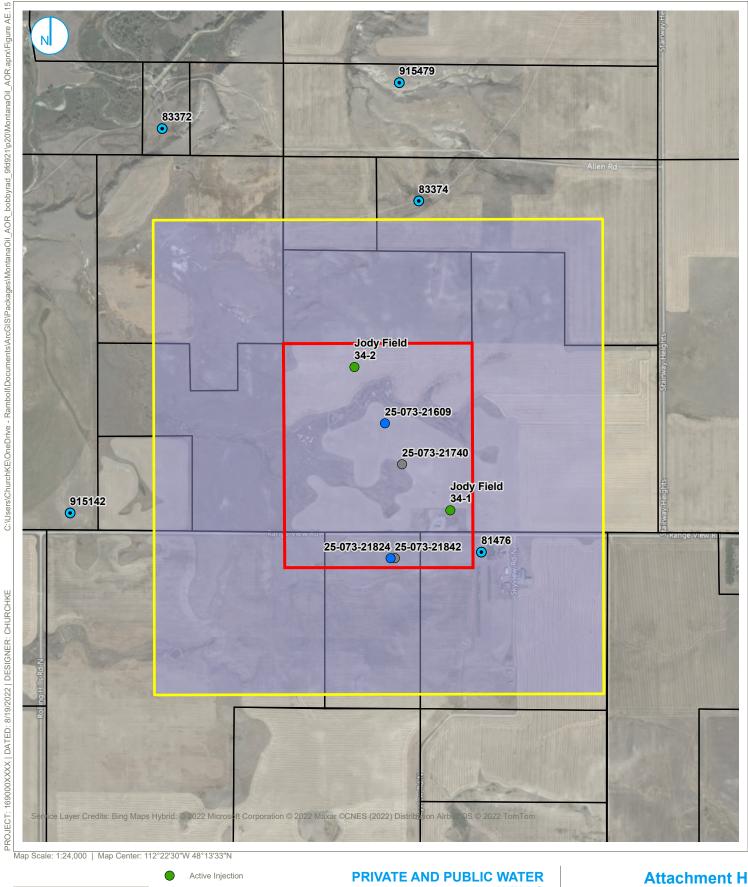
#### CountyLines 0 - 1,000 people per sq mi 1,000 - 8,400 people per sq mi 8,400 - 15,800 people per sq mi 15,800 - 24,000 people per sq mi 24,000 - 629,000 people per sq mi KEY MAP (not to scale)

**MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS** 

## 22 Miles

# Figure AE.14





# Active Injection PRIVATE AND PUBLIC WATER P&A - Approved WELLS Shut In

KEY MAP (not to scale)

Water Well Location

Parcel Boundaries

Area- Wide UIC

Area of Review

Aquifer Exemption Area

1,000 2,000 Feet

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE

**JODY FIELD WELLS** 

**AQUIFER EXEMPTION APPLICATION** 

## Attachment H Figure AE.15



#### **Privileged and Confidential**

#### **EXHIBIT A**

Water Quality Analyses Wells Jody Field 14-34 and 4-1



#### ANALYTICAL SUMMARY REPORT

March 11, 2009

Patrick Montalban Altamont Oil & Gas Inc PO Box 488 Cut Bank, MT 59427

Workorder No.: B09030751

Project Name:

Permit

Energy Laboratories Inc received the following 1 sample for Altamont Oil & Gas Inc on 3/10/2009 for analysis.

Test Sample ID Client Sample ID Receive Date Matrix Collect Date B09030751-001 SESW-Section 34-T29N-03/05/09 0:00 03/10/09 Aqueous Solids, Total Dissolved R6W, Jody Fields #14-34

Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By



#### LABORATORY ANALYTICAL REPORT

Client:

Altamont Oil & Gas Inc

Project:

Permit

Lab ID:

B09030751-001

Client Sample ID: SESW-Section 34-T29N-R6W, Jody Fields #14-34

Report Date: 03/11/09

Collection Date: 03/05/09

DateReceived: 03/10/09

Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES Solids, Total Dissolved TDS @ 180 C	5440	mg/L		10		A2540 C	03/10/09 16:24 / afb



Client: Altamont Oil & Gas Inc

Project: Permit

Report Date: 03/11/09

Work Order: B09030751

Company Compan									
Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C		ARVEVA.			<u> </u>			Batch: TD	S090310A
Sample ID: MBLK2	Method Blank				Run: CPA	124S_090310B		03/10	0/09 16:23
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	10						
Sample ID: LFB2	Laboratory For	tified Blank			Run: CPA	124S_090310B		03/10	0/09 16:23
Solids, Total Dissolved TDS @ 180 C	1090	mg/L	10	99	90	110			9
Sample ID: B09030751-001A MS	Sample Matrix	Spike	Na.		Run: CPA	124S_090310B		03/1	0/09 16:24
Solids, Total Dissolved TDS @ 180 C	7770	mg/L	10	101	80	120			
Sample ID: B09030751-001A MSD	Sample Matrix	Spike Duplicate	*		Run: CPA	124S_090310B		03/1	0/09 16:25
Solids, Total Dissolved TDS @ 180 C	7770	mg/L	10	101	80	120	0.1	20	

# **Energy Laboratories Inc** Workorder Receipt Checklist

#### Altamont Oil and Gas Inc

309030751	

Login completed by: Krystal McDonald Date and Time Received: 3/10/2009 11:15 AM Reviewed by: Denise Ruby Received by: Ig Reviewed Date: 3/10/2009 12:55:00 PM Carrier name: Std US Mail Shipping container/cooler in good condition? Yes 🗸 No 🖂 Not Present [ Custody seals intact on shipping container/cooler? Yes 🖂 No 🖂 Not Present [7] Custody seals intact on sample bottles? Yes 🗌 No 🗍 Not Present 🗸 Chain of custody present? Yes 🗸 No 🗌 Chain of custody signed when relinquished and received? Yes 🗸 No 🗆 Chain of custody agrees with sample labels? Yes V No 🗆 Samples in proper container/bottle? Yes 🗸 No 🗆 Sample containers intact? Yes 🗸 No 🗌 Sufficient sample volume for indicated test? Yes 🗸 No 🗆 All samples received within holding time? Yes 🗸 No 🗌 Container/Temp Blank temperature: 15°C No VOA vials submitted

Yes  $\square$ 

Yes 🗍

No 🖂

No 🗌

Not Applicable 🗸

Contact and Corrective Action Comments:

Water - VOA vials have zero headspace?

Water - pH acceptable upon receipt?

None

Hical Request Record  Sample Origin  Page 1 of 1  State: MONTANA Sampler Compliance:  FAX: (406) 873–2835  FAX: (406) 873–8835  FAX: (4	Totally Dissolved Sqlids X	Reinquiend by (print)  Carla Barringer
Company Name:  Company Name:  ALTAMONT OIL & GAS, INC  Report Mall Address:  PO BOX 488  CUT BANK MT 59427  Invoice Address:  SAME AS ABOVE  Special Report/Formats - ELI must be notified  Bycial Report/Formats - ELI must be notified  Special Report/Formats - ELI must be notified  Bycial Report/For	EIDENTIFICATION Collection Collection MATRIX CTION 14-34 3/5/09	Custody Record MUST be Signed

#### ANALYTICAL SUMMARY REPORT

December 05, 2007

Patrick Montalban

Altame on Oil & Gas Inc

PO B 0×488

Cutbank MT 59427

Workorder No.: B07120154

Project Name: Altamont Jody Fields

Energy laboratories Inc received the following 1 sample from Altamont Oil & Gas Inc on 12/4/2007 for analysis.

Samp lelD

Client Sample ID

Collect Date Receive Date

Matrix

Test

B07120154-001 #4 - 1 Well

12/03/07 12:00 12/04/07

Aqueous

Conductivity

Resistivity

Salinity

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except ifnoted in report comments or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By

#### LABORATORY ANALYTICAL REPORT

Clie nt

Altamont Oil & Gas Inc

Project:

Altamont Jody Fields

Lab ID

B07120154-001

Clie ntSample ID: #4 - 1 Well

Report Date: 12/05/07

Collection Date: 12/03/07 12:00

DateReceived: 12/04/07

Matrix: Aqueous

Anal ys:s	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES	1111				TO THE STREET OF THE STREET		
Salira ity	4.69			0.10		Calculation	12/05/07 08:36 / klc
Conductivity	8480	umhos/cm		1		A2510 B	12/04/07 12:01 / kh
Resistivity @ 68 F	1.18	ohm-m		0.04		E120.1	12/05/07 14:45 / klc



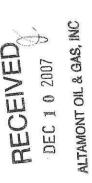


## QA/QC Summary Report

Client: Altamont Oil & Gas Inc Projec 1: Altamont Jody Fields

Report Date: 12/05/07 Work Order: B07120154

Analyte	Result Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B	1111 (0.500)	***************************************		and the second			Batch: PHSC	071204
Sample ID: PHC1070910A	Laboratory Control Sample			Run: ORIO	N555A_071204A		12/04	/07 08:5
Conductivity	157 umhos/cm	1.0	103	90	110			
Sample ID: PHC1070810A	Laboratory Control Sample			Run: ORIO	N555A_071204A		12/04	/07 08:5
Conductivity	5120 umhos/cm	1.0	102	90	110			
Sample ID: B07120150-001ADUP	Sample Duplicate			Run: ORIO	N555A 071204A		12/04	/07 11:5
Conductivity	907 umhos/cm	1.0			THE PART OF THE PA	0.5	10	



#### ENERGY LABORA TORIES

# Energy Laboratories Inc Workorder Receipt Checklist

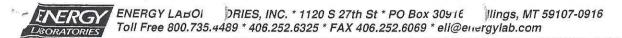
#### Altamont Oil and Gas Inc

B07120154

Login completed by: Eric L. Frank Reviewed by: Staci Fread			Received: 12/4/2007 ceived by: elf	9:15 AM	
R eviewed Date: 12/4/2007 8:02:40 PM			rier name: UPS NDA		
Shipping container/cooler in good condition?	Yes 🗹	No 🔲	Not Present		
Custody seals intact on shipping container/cooler?	Yes	No 🗌	Not Present 🗸		
Cuslody seals intact on sample bottles?	Yes	No 🗌	Not Present 🗸		<i>\$</i> 5
Chain of custody present?	Yes	No 🗹		-	
Chain of custody signed when relinquished and received?	Yes	No 🗹			ALTAMONT OIL & GAS, INC
Chain of custody agrees with sample labels?	Yes	No 🗹		2	# %
Samples in proper container/bottle?	Yes 🗸	No 🗌		円 =	N N
Sample containers intact?	Yes 🗸	No 🗌		W W	AMO N
Sufficient sample volume for indicated test?	Yes 🔽	No 🗌		a -	ALT.
All samples received within holding time?	Yes 🗸	No 🗌			
Conlainer/Temp Blank temperature in compliance?	Yes	No 🗹	14°C		
Water - VOA vials have zero headspace?	Yes [	No 🗌	No VOA vials submitted	$\checkmark$	
Water - pH acceptable upon receipt?	Yes	No 🔲	Not Applicable		

Contact and Corrective Action Comments:

Letter of instruction provided from client.



#### LABORATORY ANALYTICAL REPORT

Client:

Altamont Oil & Gas Inc

Project:

Altamont Jody Fields

Lal ID:

B07120154-001

Client Sample ID: #4 - 1 Well

Report Date: 12/07/07

Collection Date: 12/03/07 12:00

DateReceived: 12/04/07

Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Salhity	4.69			0.10		Calculation	12/05/07 08:36 / klc
Conductivity	8480	umhos/cm		1		A2510 B	12/04/07 12:01 / kh
Resistivity @ 68 F	1.18	ohm-m		0.04		E120.1	12/05/07 14:45 / klc

#### ANALYTICAL SUMMARY REPORT

January 03, 2008

Patrick Montalban

Altamont Oil & Gas Inc

PO Box 488

Cutbank, MT 59427

Workorder No.: B07120154

Project Name: Altamont Jody Fields

Energy Laboratories Inc received the following 1 sample from Altamont Oil & Gas Inc on 12/4/2007 for analysis.

Sample ID	Client Sample ID	<b>Collect Date</b>	Receive Date	Matrix	Test
B0712 <b>O</b> 154-00 <sup>-</sup>	1 #4 - 1 Well	12/03/07 12:00	12/04/07	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Anions by ion chromatography Conductivity Specific Gravity pH
	e e				Preparation, Dissolved Filtration Resistivity ROF report format Salinity Solids, Total Dissolved - Calculated

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except if noted in report comments or the Case Narrative.

If you have any questions regarding these tests results, please call.

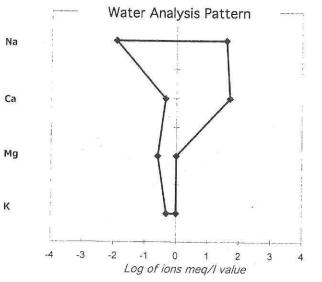
Report Approved By:



Company: Altamont Oil & Gas Inc	Date: 1/3/2008	
Field: Altamont Jody Fields	Sample Date: 12/3/2007	
County: 0	Formation :	en en en en en en en en en en en en en e
Location: #4 - 1 Well	Rock Type :	
Lab ID: B07120154-001	Depth :	
Comments :	Depth :	

## **Water Analysis Report**

			-	•	
CATIONS Potassium Socium Calcium Magnesium Irom Barium Strontium SUM +	mg/l 81 1,970 45 48 nd nd	meq/l 2.07 85.69 2.25 3.95 nd nd nd		ANIONS Sulfate Chloride Carbonate Bicarbonate Bromide Organic Acids Hydroxide SUM -	mg/l         meq/l           25         0.52           1,380         38.92           <1         0.00           3,120         51.15           nd         nd           nd         nd           ≤1         0.00           4,525         90.59
Solids			200 March 2007	Sample Conditions	
Total Dissolved Solids @180°C Total Solids, Calculated Total Solids, NaCl equivalents Chloride as NaCl NaCl, % of Total Dissolved Solids Accuracy		nd mg/l 5,109 mg/l 4,298 mg/l 2,275 mg/l 44.52 % -2.23 Sigma	s.	pH, s.u. (Field) Sample Pressure Surface Temp Downhole Temp Ionic Strength	7.50 s.u. 14.70 psia 70.00 °F na °F 0.096 µ
Dissolved Gases					
Bisulfide ion		nd		District 10	
Hydrogen Sulfide				Dissolved O <sub>2</sub> , aq	nd
Total Sulfide		nd nd		Total CO <sub>2</sub> , aq	2,427 mg/l
Other Properties				¥	9
Calcium Hardness as CaCO <sub>3</sub>		112 mg/l		Specific Gravity	1.007 measured
Magnesium Hardness as CaCO <sub>3</sub>		198 mg/l		Specific Gravity	1.005 calculated
Total Hardness as CaCO <sub>3</sub>	<del>7 15</del>	310 mg/l		Resistivity, 68°F Conductivity 25°C	1.18 ohm-m 8,480 umhos/cm
Microbiological				Scaling Conditions	
Sulfate Reducing nd			- William - We Common - Common	Calcium Carbonate	CaCO <sub>3</sub> +
Aerobic Bacteria nd				Calcium Sulfate	CaSO <sub>4</sub>
				Barium Sulfate	FOR THE STATE OF T
				Strontium Sulfate	BaSO <sub>4</sub> - SrSO <sub>4</sub> -
Water A	Analysis Pat	tern	CI	Substanti Sunate	RECEIVE!



HCO <sub>3</sub>	COMPOUN
	NaHCO3
	NaCl
	Mg(HCO3)2
SO <sub>4</sub>	Ca(HCO3)2
	Na2SO4

CO<sub>3</sub>

obable Mineral Re	sidue, Dry	V
Calculation	error = -3.7 %LTAMONT OIL & GA	S, I
MPOUND	mg/I	500-01.0 Tab
HCO3	3,705	
CI	2,275	
(HCO3)2	289	
(HCO3)2	182	
2504	37.0	

Note: nd denotes 'Not Determined'

Probable Mineral Residue, Dry

01/13/00 vEL1.0carney/standish



Client: Altamont Oil & Gas Inc

Revised Date: 12/28/07 Report Date: 12/07/07

Work Order: B07120154

Project: Altamont Jody Fields

Analy te	Result	Units		RL	%REC	Low Limit	High Limit	RPD R	PDLimit Qu	al
Metho d: A2320 B								Е	atch: ALK0712	220A
SampleD: MBLK	Method Blank					Run: MISC	-WC_071220L		12/20/07 1	0:00
Alkalin ity, Total as CaCO3	2	mg/L		1					, "	
Bicarb o nate as HCO3	2	mg/L		. 1						
Carbo nale as CO3	ND	mg/L		1.						
Hydro×ide as OH	ND	mg/L		1						
SampleD: LCS	Laboratory Co	ontrol Sam	ple			Run: MISC	C-WC_071220L		12/20/07 1	0:15
Alkalin ity, Total as CaCO3	97.7	mg/L		1.0	96	90	110			
Sample D: B07121500-001ADUP	Sample Dupli	cate				Run: MISC	C-WC_071220L		12/20/07 1	1:00
Alkalin ity, Total as CaCO3	2080	mg/L		1.0				4.5	20	
Bicarb onate as HCO3	2540	mg/L		1.0				4.5	20	
Carbonale as CO3	ND	mg/L		1.0				0.0	20	
Hydro×ide as OH	ND	mg/L		1.0				0.0	20	
Method: A2510 B	1,41,41,41,41,41,41,41,41,41,41		***************************************					Ва	tch: PHSC0712	204A
Sample D: PHC1070910A	Laboratory Co	ontrol Sam	ple			Run: ORIO	DN555A_071204A	Č.	12/04/07 0	08:58
Conductivity	157	umhos/cn	n .	1.0	103	90	110			
Sample D: PHC1070810A	Laboratory Co	ontrol Sam	nple			Run: ORIO	ON555A_071204A		12/04/07 (	08:59
Conductivity	5120	umhos/cn	n	1.0	102	90	110			
Sample D: B07120150-001ADUP	Sample Dupli	cate				Run: ORIG	ON555A_071204A	1	12/04/07 1	11:57
Conductivity	907	umhos/cn	n	1.0				0.5	10	
Method: A4500 H							Analytica	al Run: OF	RION555A_071:	220B
Sample ID: PHC1071130A	Initial Calibrat	tion Verific	ation St	tandard					12/20/07 (	08:30
рН	7.01	s.u.		0.10	100	98	102			
Method: A4500 H				<b>1916 2</b> 910.110.		0.270000	***************************************	Ва	atch: PHSC071	220A
Sample  D: B07121618-003ADUP	Sample Dupli	icate				Run: ORI	ON555A_071220E	3	12/20/07 1	17:28
Hq	7.76	s.u.		0.10				1.2	10	



### QA/QC Summary Report

Client: Altamont Oil & Gas Inc

Revised Date: 12/28/07

Report Date: 12/07/07

Work Order: B07120154

Project: Altamont Jody Fields

Analy te		Result	Units		RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	E200.7									Bat	ch: 30333
Samp le ID:	MB-30333	Method Blank					Run: ICP2	02-B_071227A		12/27	7/07 11:51
Calciu m		0.04	mg/L		0.009				10		
Magnesium		ND	mg/L		0.01						
Potassium		0.03	mg/L		0.02						
Sodium		ND	mg/L		0.1		*				
Sample ID:	B07121574-001BMS2	Sample Matrix	Spike				Run: ICP2	02-B_071227A		12/27	7/07 12:06
Calciu m		92.7	mg/L		1.0	97	70	130			
Magnesium		67.5	mg/L		1.0	101	70	130			
Potassium		53.0	mg/L		1.0	103	70	130			
Sodium		59.6	mg/L		1.0	103	70	130			
Sample ID:	B07121574-001BMSD2	Sample Matrix	Spike Du	plicate			Run: ICP2	02-B_071227A		12/2	7/07 12:09
Calcium		93.3	mg/L		1.0	98	70	130	0.7	20	
Magnesium		67.3	mg/L		1.0	100	70	130	0.3	20	
Potassium		53.2	mg/L		1.0	104	70	130	0.4	20	
Sodium		60.2	mg/L		1.0	105	70	130	1.0	20	
Method:	E200.7	18 20 20 20 20 20 20 20 20 20 20 20 20 20						Anal	ytical R	un: ICP202-B	_071227A
Sample ID:	QCS	Initial Calibration	on Verific	ation Sta	ndard					12/2	7/07. 10:09
Calcium		50.1	mg/L		1.0	100	90	110			
Magnesium		49.0	mg/L		1.0	98	90	110			9
Potassium		50.7	mg/L		1.0	101	90	110			
Sodium		50.5	mg/L		1.0	101	90	110			





Altamont Oil & Gas Inc

Project: Altamont Jody Fields

#### QA/QC Summary Report

Revised Date: 12/28/07

Report Date: 12/07/07

Work Order: B07120154

Analy te		Result	Units	RL	%REC	Low Limit	High Limit	RPD RP	DLimit	Qual
Method:	E300.0						An	alytical Run:	IC202-B	_071221A
Samp le ID:	ICV	Initial Calibration	on Verification S	andard					12/21	/07 10:02
Chlori de		25.2	mg/L	1.0	101	90	<b>1</b> 10			, , , , , ,
Sulfate		101	mg/L	1.0	101	90	110			
Method:	E300.0		· · · · · · · · · · · · · · · · · · ·	15-2000	A 10 A 10 A 10 A 10 A 10 A 10 A 10 A 10		a valvarión	et and Survey	Batch:	R104331
Sample ID:	ICB	Method Blank				Run: IC202	2-B_071221A		12/21	/07 10:14
Chloride		0.04	mg/L	0.03						10.17
Sulfate		ND	mg/L	0.06						
Sample ID:	LFB	Laboratory For	tified Blank			Run: IC202	2-B_071221A		12/21	/07 10:26
Chloride		9.27	mg/L	1.0	92	90	110			
Sulfate		37.2	mg/L	1.0	93	90	110	3		
Sample ID:	B07120154-001AMS	Sample Matrix	Spike			Run: IC202	2-B_071221A		12/21	/07 11:35
Chloride	05 19	2580	mg/L	1.5	96	90	110			
Sulfate		4890	mg/L	3.1	97	90	110			
Sample ID:	B07120154-001AMSD	Sample Matrix	Spike Duplicate			Run: IC202	2-B_071221A		12/21	/07 11:47
Chloride		2560	mg/L	1.5	94		110	0.9	20	
Sulfate		4850	mg/L	3.1	97	90	110	0.8	20	

RECEIVED JAN 1 4 2008

# E nergy Laboratories Inc Workorder Receipt Checklist

#### All tamont Oil and Gas Inc

B07120154

Logincompleted by: Eric L. Frank  Reviewed by: Staci Fread  Reviewed Date: 12/4/2007 8:02:40 PM		Rec	Received: 12/4/2007 9:15 AM eived by: elf er name: UPS NDA
Shipping container/cooler in good condition?  Custody seals intact on shipping container/cooler?  Custody seals intact on sample bottles?  Chain of custody present?  Chain of custody signed when relinquished and received?  Chain of custody agrees with sample labels?  Samples in proper container/bottle?  Sample containers intact?  Sufficient sample volume for indicated test?  All samples received within holding time?	Yes	No	Not Present ☑  Not Present ☑  Not Present ☑
Container/Temp Blank temperature in compliance?  Water · VOA vials have zero headspace?  Water · pH acceptable upon receipt?	Yes  Yes  Yes  Yes	No 🔀 No 🗀	14°C  No VOA vials submitted   ✓  Not Applicable  ✓

Contact and Corrective Action Comments:

Letter of instruction provided from client.

JAN 1 4 2008 Y

PECENCE JAN 1 4 2008

115/208

Altamont Oil & Gas Inc Patrick Montalban PO Box 488 Cutbank MT 59427

Manor Frik 41

Aldanor Hick 41

Au aktely



#### LABORATORY ANALYTICAL REPORT

CIE ent:

MCR LLC

Project:

Berthelote Water Disposal

La bID:

B08042696-002

Client Sample ID: Disp System

Report Date: 05/06/08

Collection Date: 04/24/08 06:45

DateReceived: 04/25/08

Matrix: Aqueous

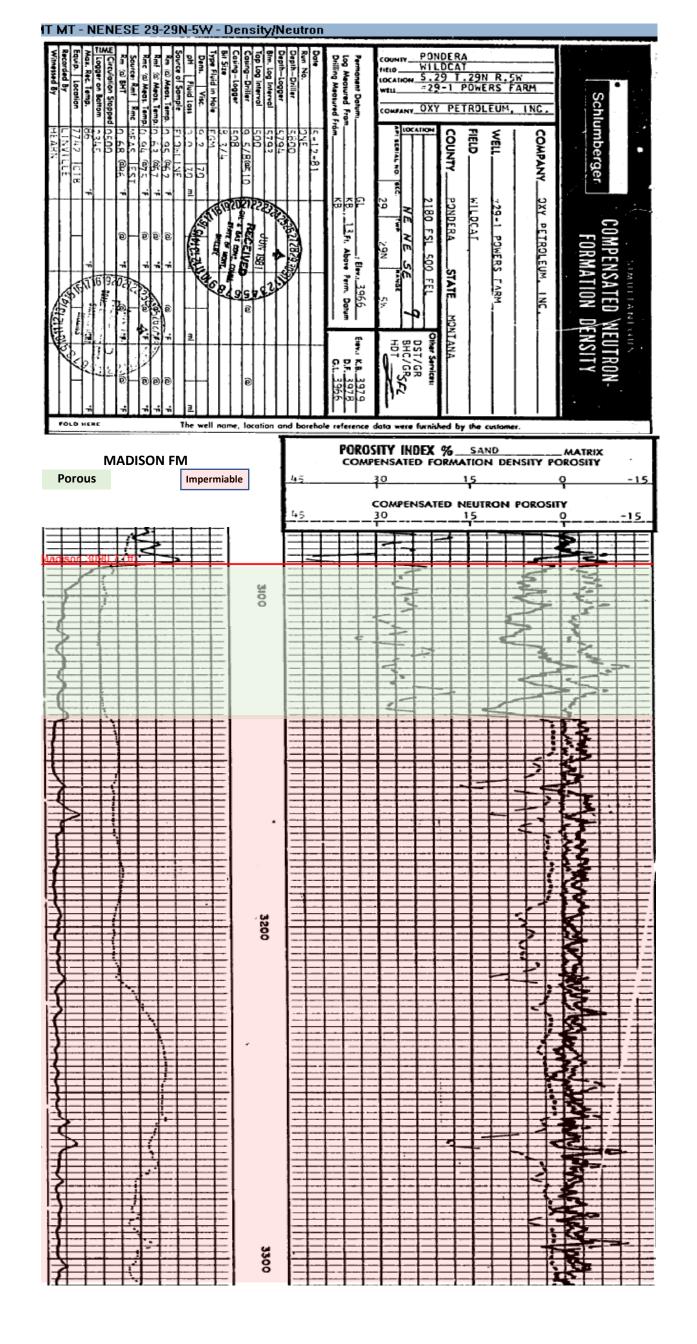
Araalyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By				
PHYSICAL PROPERTIES Solids, Total Dissolved TDS @ 180 C	3220	mg/L		10		A2540 C	04/25/08 13:39 / afb				
IN ORGANICS Allkalinity, Total as CaCO3 Sulfate	2010 159	mg/L mg/L		1 1		A2320 B E300.0	04/25/08 21:40 / kh 04/28/08 20:05 / qed				
NUTRIENTS Ni trogen, Nitrate+Nitrite as N	0.14	mg/L		0.05		E353.2	05/02/08 13:39 / bls				

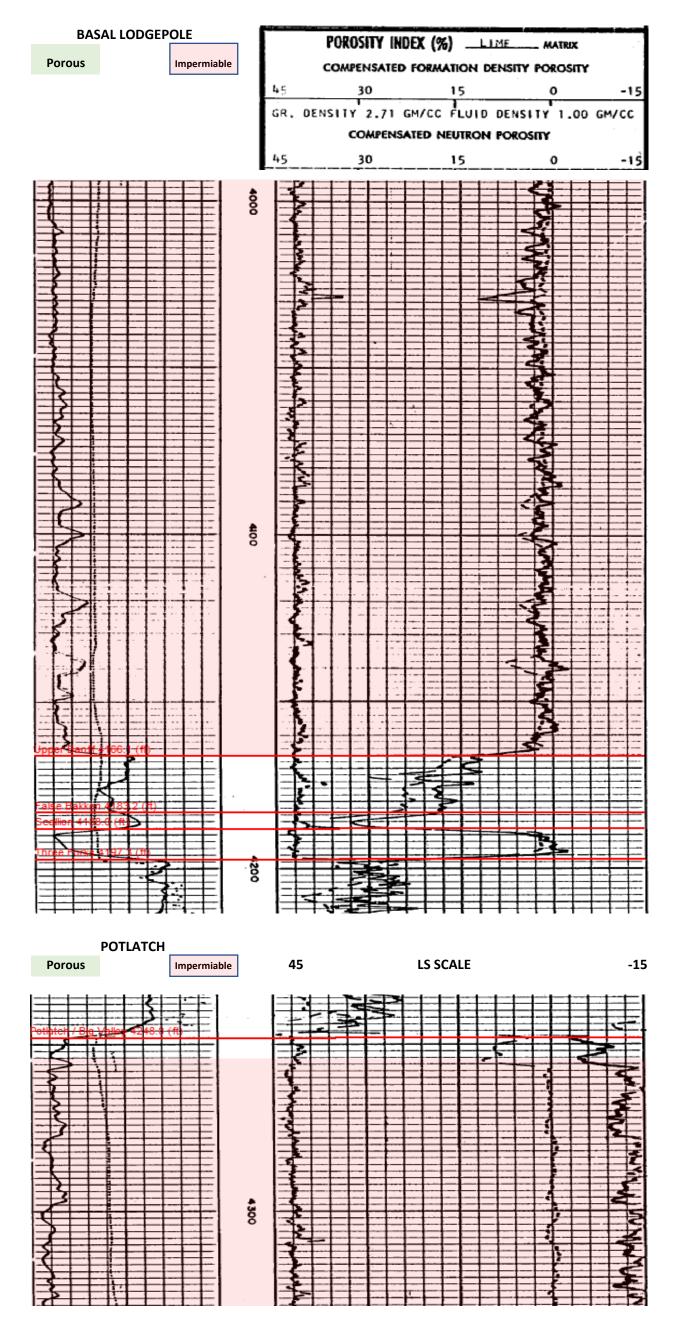
Mode South of the South of the Market Doposet)

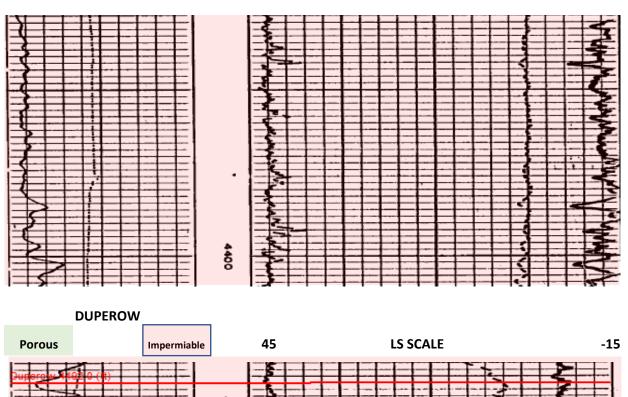
#### **Privileged and Confidential**

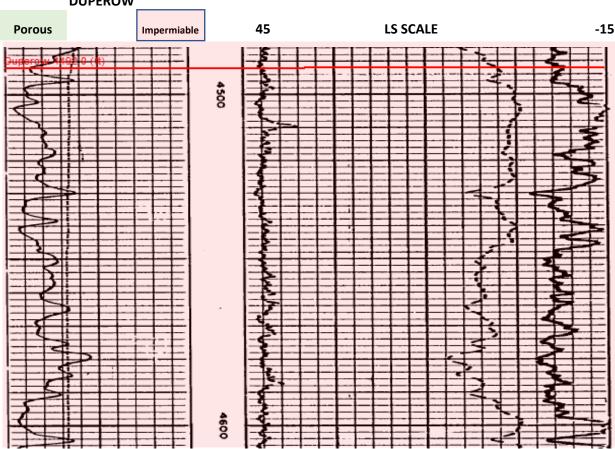
#### **EXHIBIT B**

Powers Farm 29-1 Density/Neutron Log









Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

Attachment I Existing EPA Permits (40 CFR § 144.31)



DRAFT
Privileged and Confidential

# N/A No EPA Permits to Report

Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

Attachment J
Description of Business
(40 CFR § 144.31)



Attachment J
Description of Business
(40 CFR § 144.31)

## DRAFT Privileged and Confidential

#### **CONTENTS**

1. Montalban Oil & Gas Operations, Inc. Description of Business 2

Attachment J
Description of Business
(40 CFR § 144.31)

DRAFT
Privileged and Confidential

# 1. MONTALBAN OIL & GAS OPERATIONS, INC. DESCRIPTION OF BUSINESS

Montalban Oil & Gas Operations, Inc. (Montalban) is located in Pondera County, Montana, approximately 90 miles north of Great Falls, Montana. Montalban has successfully operated underground injection control (UIC) wells in Pondera County for over 11 years. Montalban has applied to EPA for an Area-Wide UIC Class V permit for injection of industrial wastewater into the Mississipian Madison Aquifer, an Underground Source of Drinking Water (USDW) for which an Aquifer Exemption has been requested. The area-wide UIC permit includes initial conversion of two (2) existing Class II UIC wells to Class V UIC wells and conversion at a future date of two (2) shut-in oil and gas wells to Class V UIC Wells.

Montalban is planning to receive industrial wastewater from Montana Renewables, a renewable fuels refinery located in Great Falls, Montana. Montana Renewables is a leader in the renewable energy transition, processing renewable feedstocks (such as seed oils, used cooking oil, and tallow) into low-emission sustainable alternatives that directly replace fossil fuel products. The refinery is scheduled to commence operations in 2022, with wastewater discharge commencing the First Quarter of 2023. Permitting injection of its wastewater into the proposed Class V UIC wells will support Montana Renewables in leading Montana's energy transition.

Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

Attachment K
Optional Additional Project
Information
(40 CFR § 144.4)



# N/A No Additional Information to Report

United States Environmental Protection Agency

## **Underground Injection Control**

For Official Use Only	
Date Received	
Autoritation of the second and the second of	
Permit Number	UNIGHBADAR ENGLISHED BINSALAN GAZLODES ZINGE ERVER EPVER IPP. P. P. P. P.

Permit Application for a Class V Well (Collected under the authority of the Safe Drinking Water Act. Sections 1421, 1422, and 40 CFR Part 144)					COLUMN TO THE PROPERTY OF THE			
	Read Attached Instructions Before Starting							
I. Owner Name, Address	I. Owner Name, Address, Phone Number and/or Email  II. Operator Name, Address, Phone Number and/or Email							
Montalban Oil & Gas Operations, Inc 33 - 1st Avenue SW Cut Bank, Montana 59427 (406) 873-2845 montemontalban@gmail.com			33 - 1st Cut Bar (406) 87	oan Oil & Gas ( Avenue SW ık, Montana 59 73-2845 oontalban@gma	427	ns, Inc		
III. Commercial Facility	IV. Ownership	V. Permit Action Requested	<b>保持</b> 第4		V	/I. SIC Code(s)	VII. Indian Country	
X Yes	Private Federal State/Tribal/ Municipal	New Permit Permit Renewal Modification Add Well to Area Permi			The state of the s	Non Classified	Yes X No	
VIII. Type of Permit (For I	nultiple wells, use ad	ditional page(s) to provide the	information r	equested for eac	ch additio	onal well)	The American	
A. Individual Numb	Targett of the same of the sam	ield and/or Project Names Field UIC Class II Well Co	nversion (Jo	dy Field 34-1 a	nd Jody	Field 34-2)		
IX. Class and Type of W	ell (see reverse)		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)			indicate the same	2 186. (民主主教)	
A. Class B. Type (ente	r code(s)) C. If type	code is "X," explain.						
X. Well Status			XI. Well Info	rmation				
A. Operating Date Injection Started 08/16/2011	B. Conversion Date Well Constr	C. Proposed		PA ID) Number	25-073-2 MT5282 Jody Fie			
XII. Location of Well or,	for Multiple Wells, A	pproximate Center of Field o	r Project				推译 经产品产品	
Locate well in two directions from nearest lines of quarter section and drilling unit  Surface Location  SW 1/4 of SW 1/4 of Section 34 Township 29N Range 6W  Longitude 112°22'16" W  330 ft. from (N/S) S Line of quarter section  [2310 ft. from (E/W) W Line of quarter section.								
XIII. Attachments								
In addition to this form, complete Attachments A-U (as appropriate for the specific well class) on separate sheets. Submit complete information, as required in the instructions and list all attachments, maps or other figures, by the applicable letter.								
XIV. Certification								
I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR § 144.32)								
Patrick M. M.	arra ratio anno associate (la marcha programa e program	t) Signature	all			Date Signed 10/11/2	22	

Approval Expires 4/30/2022

United States Environmental Protection Agency

# Underground Injection Control

				-
For Offic	cial Use O	nly		
Date Re	ceived	Commence of the Commence of th		
	WATER STREET	9		
Permit N	Number	sometriconnector of the section of the	COSS-SPECIAL SECURITION SECURITIONS AND ADDRESS OF CONTRACTORS	

Sections 1431, 1432, and 40 CFP part 1449  Read Attached Instructions Before Starting  1. Operator Name, Address, Phone Number and/or Email  1. Operator Nam	Permit Application for a Class V Well  (Collected under the authority of the Safe Orinking Water Act			Permit Number		
II. Operator Name, Address, Phone Number and/or Email   III. Operator Name, Address, Phone Number and/or Email   Montalbam Oil & Gas Operations, Inc   33 - 1st Avenue SW   Cut Bank, Montans 9427   (460) \$73-2845   (460) \$73-2	3/11/	(Collect				
Montalban Oil & Gas Operations, Inc 33 - 1st Avenue SW Cut Bank, Montana 99427 (4406) \$73-2845 montermontalban@gmail.com  III. Commercial Facility IV. Ownership  V. Permit Action Requested  VII. Status  Non Classified  VIII. Type of Permit (For multiple wells, use additional page(s) to provide the information requested for each additional well)  A Individual  Non Classified  VIII. Type of Permit (For multiple wells, use additional page(s) to provide the information requested for each additional well)  A Individual  Non Classified  VIII. Type of Permit (For multiple wells, use additional page(s) to provide the information requested for each additional well)  A Individual  Non Classified  Ves  Ves  Non Classified  Ves  Non Classified  Ves  Ves  Non Classified  Ves  No			Read Attached Instru	uctions Before Startin	g	
33 - 1st Avenue SW   Cut Bank, Montana 59427 (406) 873-2845   montemontalban@gmail.com   Will. Commercial Facility   V. Ownership   V. Permit Action Requested   Vi. SiG Code(s)   Vil. Indian Country   Vil. Type of Permit (For multiple wells, use additional page(s) to provide the Information requested for each additional well)   Viii. Type of Permit (For multiple wells, use additional page(s) to provide the Information requested for each additional well)   Viii. Type of Permit (For multiple wells, use additional page(s) to provide the Information requested for each additional well)   Viii. Type of Permit (For multiple wells, use additional page(s) to provide the Information requested for each additional well)   Viii. Type of Permit (For multiple wells, use additional page(s) to provide the Information requested for each additional well)   Viii. Type of Permit (For multiple wells, use additional page(s) to provide the Information requested for each additional well)   Viii. Type of Permit (For multiple wells, use additional page(s) to provide the Information requested for each additional well)   Viii. Type of Permit (For multiple wells, use additional page(s) to provide the Information requested for each additional well)   Viii. Type of Permit (For multiple wells, Use additional page(s) to provide the Information requested for each additional well)   Viii. Additional page(s)   Viii. Type of Permit (For Permit Permit (or EPA ID) Number   Viii. Attachment   Viiii. Attachment   Viiii. Attachment   Viiii. Attachment   Viiii. Attach	I. Owner Name, Address	, Phone Number and	or Email	II. Operator Name, Addr	ess, Phone Number and/o	or Email
Non Classified   Yes   Non Classified   Yes	33 - 1st Avenue SW Cut Bank, Montana 59 (406) 873-2845	9427		33 - 1st Avenue SW Cut Bank, Montana 59 (406) 873-2845	9427	
Non Classified   Permit Renewal   Modification   Add Well to Area Permit   Other	III. Commercial Facility	IV. Ownership	V. Permit Action Requested		VI. SIC Code(s)	VII. Indian Country
A. Individua   Number of Wells   2	[managed]	Federal State/Tribal/	Permit Renewal Modification Add Well to Area Permit		Non Classified	Samparel
IX. Class and Type of Well (see reverse)   IX. Class and Type of Well (see reverse)	VIII. Type of Permit (For	multiple wells, use ac	Iditional page(s) to provide the	information requested for ea	ch additional well)	<b>计域性制度标识</b>
A. Class B. Type (enter code(s))  V  J  X. Well Status  XI. Well Information  XI. Well Information  API Number 25-073-21838  Permit (or EPA ID) Number 609/08/2008  API Number 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2	Commence of the second	TO THE OWNER OF THE PARTY OF TH	nversion (Jody Field 34-1 a	and Jody Field 34-2)	
XI. Well Information  XI. Well Information  XI. Well Information  XI. Well Information  XI. Well Information  API Number 25-073-21838  Permit (or EPA ID) Number MT5253  [03/15/2010	IX. Class and Type of W	/ell (see reverse)				的 自由 自由 使 其 是 使 其 是 使 所 是 使 所 。 是 的 。 是 的 。 是 的 。 的 。 的 。 的 。 的 。 的 。 的 。 的 。 的 。 的 。 。 的 。 。 。 。 。 。 。 。 。 。 。 。 。
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Date Injection Started  03/15/2010  Date Well Constructed  09/08/2008  Permit (or EPA ID) Number Full Well Name  Permit (or EPA ID) Number Full Well Name  In addition to this form, complete Attachments  In addition to this form, complete Attachments A-U (as appropriate for the specific well class) on separate sheets. Submit complete information, as required in the instructions and list all attachments, maps or other figures, by the applicable letter.  XIV. Certification  I certify under the penalty of law that I have personally examined and am familiar with the information, submitted in this document and all attachments and that, based on my inquiry of those individuals immediately perpensible for obstating the information, including the possibility of fine and imprisonment. (Ref. 40 CFR § 144.32)  Name and Official Title (Please Type or Print)  Signature  Permit (or EPA ID) Number MT5253 Full Well Name  ATTS ATTS ATTS ATTS ATTS ATTS ATTS ATT	X. Well Status			XI. Well Information		<b>米</b> 整研發短途
Locate well in two directions from nearest lines of quarter section and drilling unit  Surface Location  NW 1/4 of SW 1/4 of Section 34 Township 29N Range 6W  Longitude 112°22'36" W  2310 ft. from (N/S) S Line of quarter section  990 ft. from (E/W) W Line of quarter section.  XIII. Attachments  In addition to this form, complete Attachments A-U (as appropriate for the specific well class) on separate sheets. Submit complete information, as required in the instructions and list all attachments, maps or other figures, by the applicable letter.  XIV. Certification  I certify under the penalty of law that I have personally examined and an familiar with the information, submitted in this document and all attachments and that, based on my inquiry of those individuals immediately respensible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR § 144.32)  Name and Official Title (Please Type or Print) Signature  Date Signed	Date Injection Started	Date Well Consti	Longraphic	Permit (or EPA ID) Number	MT5253	
Surface Location  NW 1/4 of SW 1/4 of Section 34 Township 29N Range 6W  2310 ft. from (N/S) S Line of quarter section  990 ft. from (E/W) W Line of quarter section.  XIII. Attachments  In addition to this form, complete Attachments A-U (as appropriate for the specific well class) on separate sheets. Submit complete information, as required in the instructions and list all attachments, maps or other figures, by the applicable letter.  XIV. Certification  I certify under the penalty of law that I have personally examined and am familiar with the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR § 144.32)  Name and Official Title (Please Type or Print)  Signature  Date Signed	XII. Location of Well or,	, for Multiple Wells, A	Approximate Center of Field or	r Project		
In addition to this form, complete Attachments A-U (as appropriate for the specific well class) on separate sheets. Submit complete information, as required in the instructions and list all attachments, maps or other figures, by the applicable letter.  XIV. Certification  I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR § 144.32)  Name and Official Title (Please Type or Print)  Signature  Date Signed	Surface Location  NW 1/4 of SW 1/4 of Section 34 Township 29N Range 6W  Longitude 112°22'36" W  2310 ft. from (N/S) S Line of quarter section					
class) on separate sheets. Submit complete information, as required in the instructions and list all attachments, maps or other figures, by the applicable letter.  XIV. Certification  I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR § 144.32)  Name and Official Title (Please Type or Print)  Signature	The Child of the		XIII. A	Attachments		THE RESERVE TO SERVE THE PARTY OF THE PARTY
I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR § 144.32)  Name and Official Title (Please Type or Print)  Signature  Date Signed	class) on separate sheets. Submit complete information, as required in the instructions and					
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Treams and Smooth Title 1	and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibliity of fine and					
Patrick M Montalban 10/11/22		CANADA CA	nt) Signature	~oft/		/11/22

Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

# Attachment A Map(s) and Area of Review

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- Figure 02. Topographic Map
- Figure 03. Jody Field 34-1 Well Schematic
- Figure 04. Jody field 34-2 Well Schematic

#### **EXHIBITS**

Exhibit A. Montana BOGC Well Record

#### 1. WELL LOCATIONS (40CFR § 144.3)

Montalban Oil & Gas Operations, Inc (Montalban) is submitting this area-wide underground injection control (UIC) permit application to USEPA Region 8 for conversion of two (2) existing Class II UIC wells and two (2) shut-in oil and gas wells to Class V UIC wells. The wells will be used for injection of industrial wastewater received from the Montana Renewables Fuels Refinery in Great Falls, Montana. The wells are located in the Loneman Coulee Oil Field north of Great Falls in Pondera County, Montana (**Figure 01**).

This application involves a phased approach with initial conversion of the two existing Class II wells and subsequent conversion of the two shut-in oil and gas wells, at a later date, to accommodate future wastewater volumes from the refinery.

The wells included in this area-wide application are listed in **Table 1** below. Wellbore schematics for Jody Field Wells 34-1 and 34-2 are included in **Figures 03 and 04**, respectively.

TABLE 1. Area-Wide Permit Application UIC Wells							
Well Name	API#	Well Owner	Well Operator	Well Coordinates	Well Depth (ft)	Injection Formation	Injection Interval (ft bls)
Jody Field	25-	Montalban	Montalban	48°13′31″ N	3,538	Madison/	3,428-
34-1	073-			112°22'26" W		Sun River	3,538
	21830					Dolomite	
Jody Field	25-	Montalban	Montalban	48°13′22″ N	3,499	Madison/	3,418-
34-2	073-			112°22'16" W		Sun River	3,499
	21838					Dolomite	
Jody Field	25-	Montalban	Montalban	48° 13'29'' N	3,415	Madison/	TBD
14-34	073-			112° 22'27''		Sun River	
	21740			W		Dolomite	
Jody Field	25-	Montalban	Montalban	48° 13'16'' N	3,462	Madison/Su	TBD
4-1A	073-			112° 22'29''		n River	
	21842			W		Dolomite	

As illustrated on **Figure 01**, the area-wide UIC permit boundary was drawn to include the proposed Class V UIC wells within the Loneman Coulee Field. The GIS coordinates of each corner of the area-wide permit boundary are as follows.

TABLE 2. Area Wide UIC Permit Boundary GIS Coordinates							
Corner	Y Coordinate						
NorthWest	-12510984.7968	6145834.8807					
NorthEast	-12508131.2437	6145842.5415					
SouthEast	-12508123.1499	6142827.6853					
SouthWest	-12510976.7030	6142820.0245					

# 2. AREA OF REVIEW SIZE DETERMINATION (40 CFR § 146.6)

An Area of Review (AoR) was established for the area-wide permit based on a delineated radius of 1/2 mile from the mapped area-wide boundary (Figure 01).

#### 3. MAP(S) (40 CFR § 144.31)

**Figure 02** includes a topographic map extending over one mile beyond the proposed project boundary. The Figure indicates the location of the proposed Class V injection wells, the area-wide UIC permit boundary, and the applicable AoR. The following features were not found, or known to be within, the mapped AoR:

- outcrops of injection and confining formations;
- surface water intake and discharge structures;
- hazardous waste treatment, storage, or disposal facilities;
- mines (surface and subsurface) and quarries; or
- · residences, schools, and hospitals.

Within the extended topographic map area there are six (6) water wells documented, including one within the AoR (**Figure 02**). Details obtained from the MBMG GWIC database regarding the nearby water wells are included in **Table 3**.

TABLE 3. Water Wells Within the Topographic Map Area – Source: Montana Groundwater Information Center (GWIC)

Well Owner Information	Aquifer	Date Completed	Well ID and Use	Well Depth (ft)	Static Water Level (ft)
Allen, John E.	Sandstone	1/1/1962	#83374 -	207	160
Valier, MT 59486	Unit		Agricultural		
Fed Land Bank 1	Unknown	Unknown	#915142 - NA	Unknown	Unknown
Allen 1	Unknown	Unknown	#915479 – NA	Unknown	Unknown
Pondera County Canal	Unknown	1/1/1912	#83372 -	Unknown	13
& Reservoir Co.			Domestic		
Valier, MT 59486					

TABLE 3. Water Wells Within the Topographic Map Area- Source: Montana Groundwater Information Center (GWIC)

Well Owner Information	Aquifer	Date Completed	Well ID and Use	Well Depth (ft)	Static Water Level (ft)
Field, C.W. Jr.	Unknown	1/19/1953	81476	109	17
Valier, MT 59486					
Fields CW *8 Mi SW	Two	Unknown	#6412	90	Unknown
Valier Montana	Medicine		Domestic/		
	Formation		Stockwater		

# 4. PART IV. AREA OF REVIEW WELLS AND CORRECTIVE ACTION PLANS (40 CFR § 144.55)

The wells located within the AoR that penetrate the confining zones for the proposed Class V UIC wells are listed in **Table 4** below. These wells include oil and gas wells that are either plugged and abandoned (approved by the Montana BOGC) or shut-in.

TABLE 4. Wells Penetrating the Proposed Confining Zone							
Well Name or Type	API or Water Well #	Well Owner	Well Location	Well Depth (ft)	Formation	Well Status	
Field 1-34A	25-073- 21609	AltaMont Oil & Gas, Inc.	29N - 6W - 34 NW SW 1700 FSL, 1300 FWL	3,485	Madison	P&A Approved	
Field 14-34	25-073- 21740	Montalban Oil & Gas Operations, Inc.	29N - 6W - 34 SE SW 990 FSL, 1650 FWL	3,415	Madison	Shut-in	
Jody Field 4-1	25-073- 21824	AltaMont Oil & Gas, Inc.	28N - 6W - 04 NE NE 330 FNL, 430 FEL	3545	Madison	P&A Approved	
Jody Field 4-1A	25-073- 21842	Montalban Oil & Gas Operations, Inc.	28N - 6W - 04 NE, 330 FNL, 380 FEL	3,416	Sawtooth	Shut-in	

The BOGC well records were researched to determine the availability of construction details, cement bond logs and records of well completion and plugging for each of the above oil and gas wells. The findings are presented in **Table 5** and included in Exhibit A.

TABLE 5. BOGC Oil and Gas Well Records							
Well	Construction Details	Cement Bond Logs	Record of Well Completion	P&A Records	Confining Unit Penetrated		
Field 1-34	Exhibit A	Not Available	Exhibit A	Exhibit A	Jurassic Ellis Group (above Mississippian Madison Aquifer)		
Field 14-34	Exhibit A	Exhibit A	Exhibit A	Shut-in	Jurassic Ellis Group (above Mississippian Madison Aquifer)		
Jody Field 4-1	Exhibit A	Exhibit A	Exhibit A	Exhibit A	Jurassic Ellis Group (above Mississippian Madison Aquifer)		
Jody Field 4-1A	Exhibit A	Not Available	Exhibit A	Shut-in	Jurassic Ellis Group (above Mississippian Madison Aquifer)		

# 5. PART V. LANDOWNER INFORMATION (40 CFR § 144.31 AND PART 147)

The UIC wells are located within the Loneman Coulee Oil Field in Pondera County, Montana. The land within the requested exemption area is used for oil and gas related activities and agriculture. The identities of the landowners within the AoR are provided in **Figure 01** and detailed in **Table 6** below.

TABLE 6. Landowner	rs Within the Aquifer Exe	mption Area	
Landowner	Owner Address	Parcel #	Use
Field, Jody	5353 Range View Rd. Valier, MT 59486	26-4096-34-4-04-01-0000	Agricultural
Vandenbos, William D & Tamara K JTRos	453 Frances Heights Rd. Valier, MT 59486	26-4096-33-4-01-01-000	Agricultural
Vandenbos, Keith E & Leiha R. JTRos	2475 Seven Block Rd. Valier, MT 59486	26-4096-33-1-01-01-0000	Agricultural
Field, Jody	5353 Range View Rd. Valier, MT 59486	26-4096-34-2-03-03-0000	Agricultural
Field, Jody	5353 Range View Rd. Valier, MT 59486	26-4096-34-1-03-01-0000	Agricultural
Field Ranch Inc.	5353 Range View Rd. Valier, MT 59486	26-3984-03-2-02-02-0000	Agricultural
Field Ranch Inc.	5353 Range View Rd, Dupuyer, MT 59432	26-3984-04-1-01-01-0000	Agricultural
Field Ranch Inc.	5353 Range View Rd. Valier, MT 59486	26-3984-04-2-02-01-0000	Agricultural

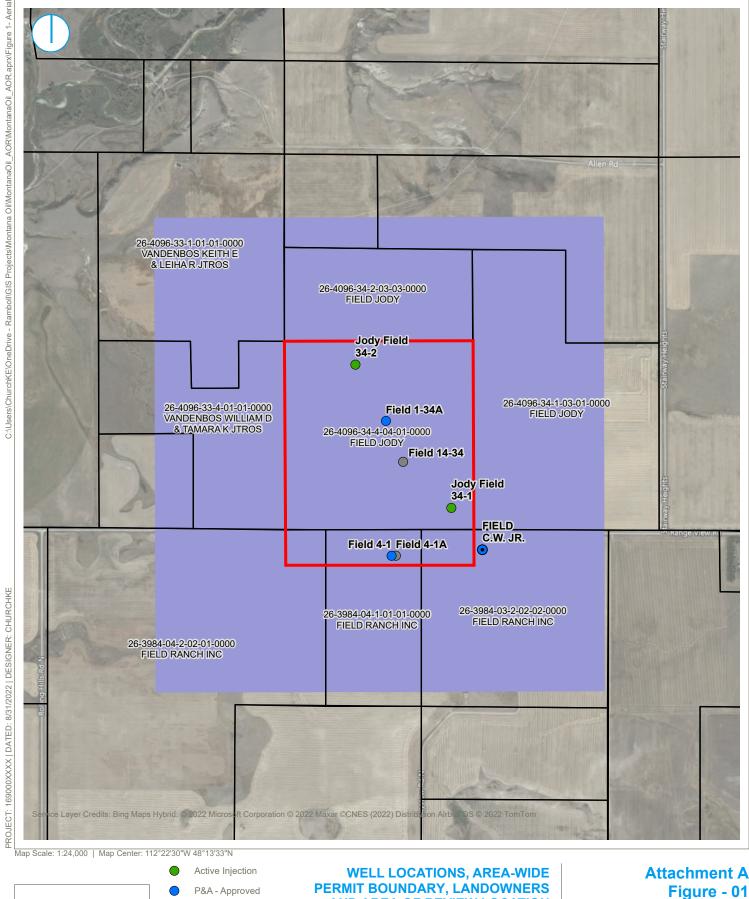
TABLE 6. Landowner	rs Within the Aquifer Exe	mption Area	
Landowner	Owner Address	Parcel #	Use
Vandenbos, William D	453 Frances Heights Rd.	26-4096-33-4-01-01-000	Agricultural
& Tamara K JTRos	Valier, MT 59486		

#### **FIGURES**

Figure 01. Well Locations, Area-Wide Permit Boundary and Area of Review Location

Figure 02. Topographic Map

Figure 03. Jody Field 34-1 Well Schematic Figure 04. Jody Field 34-2 Well Schematic



# 0

KEY MAP (not to scale)

Shut In

Water Well Location

Parcel Boundaries

Area of Review (AOR) 0

1,000

2,000

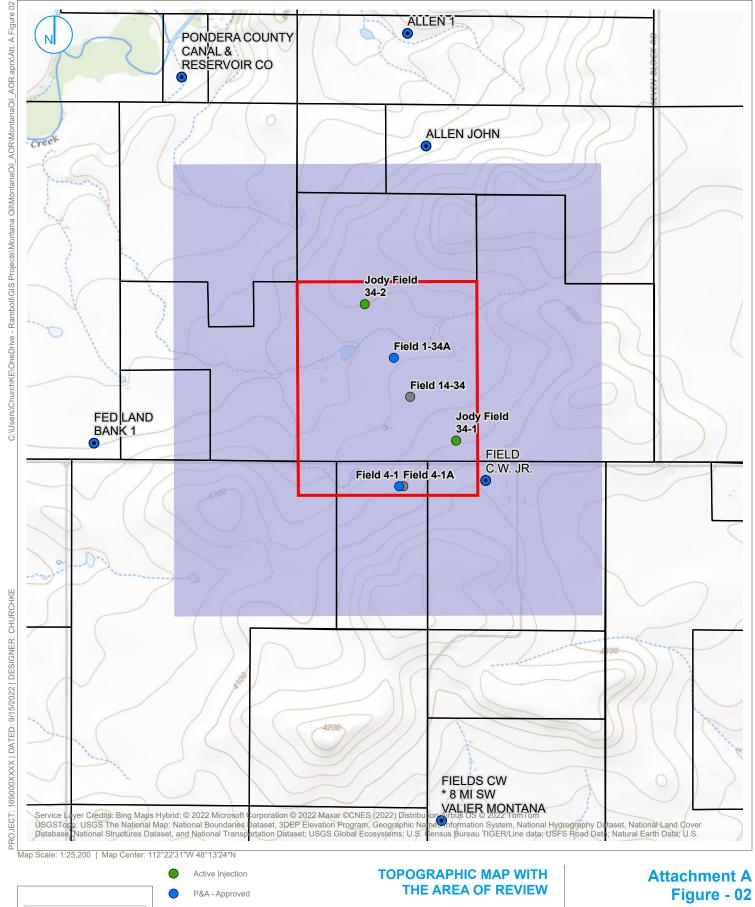
Area- Wide UIC

**PERMIT BOUNDARY, LANDOWNERS** AND AREA OF REVIEW LOCATION

> **MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE UIC APPLICATION JODY FIELD WELLS**

#### RAMBOLL US CONSULTING, INC. A RAMBOLL COMPANY

RAMBOLL



RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY



P&A - Approved

Shut In

Water Well Location

Parcel Boundaries

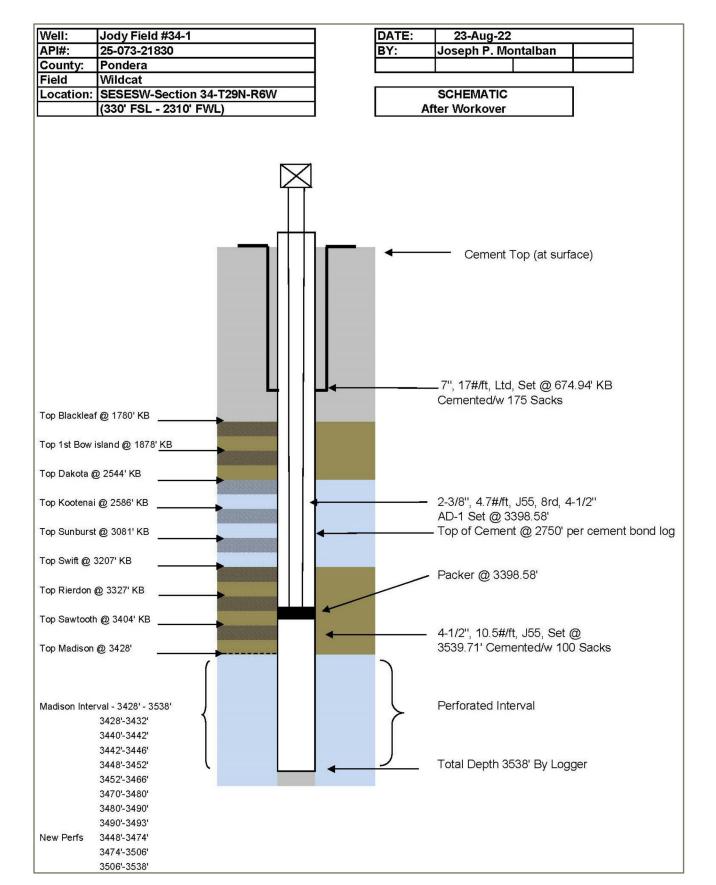
Area- Wide UIC

KEY MAP (not to scale)

Area of Review (AOR)

MONTALBAN OIL AND GAS
OPERATIONS INC - AREA WIDE
AQUIFER EXEMPTION
APPLICATION
JODY FIELD WELLS

0 1,050 2,100 Feet





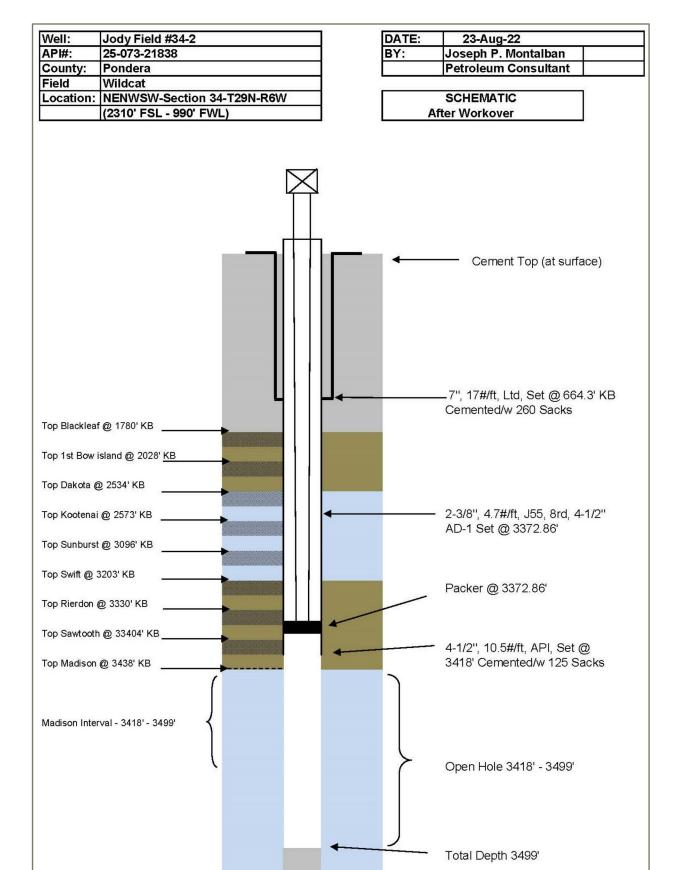
### WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-1

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS



RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY







### WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-2

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS



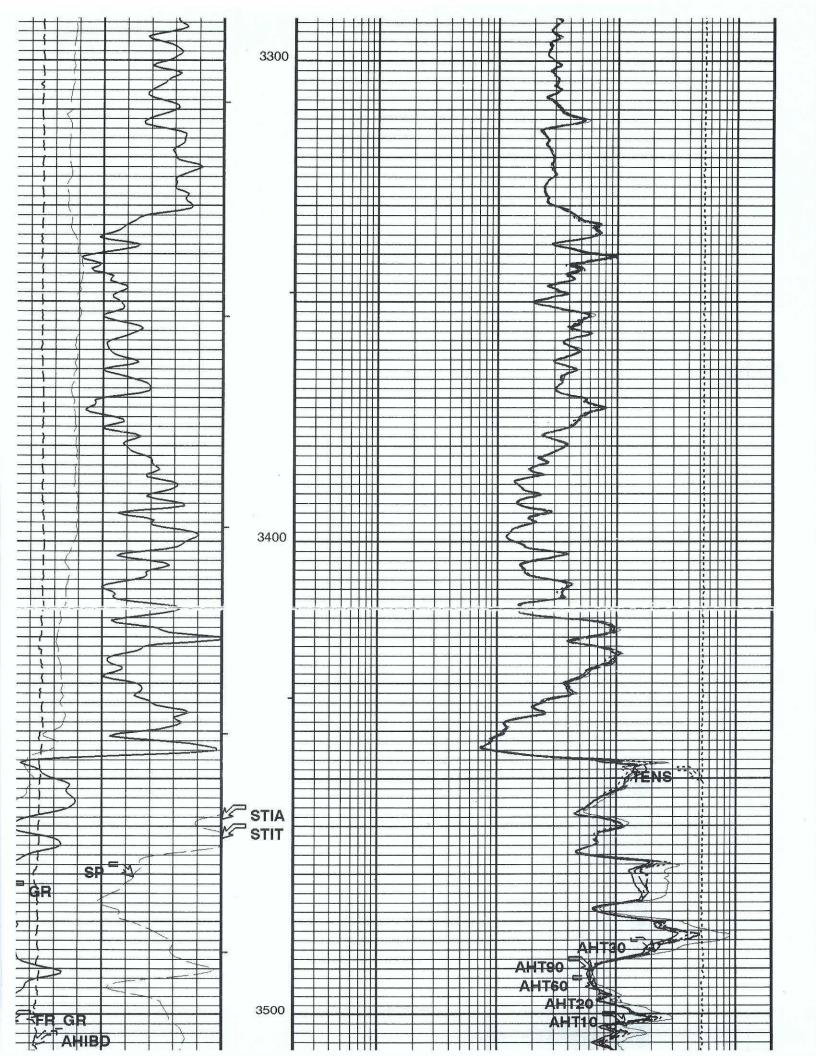
RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY

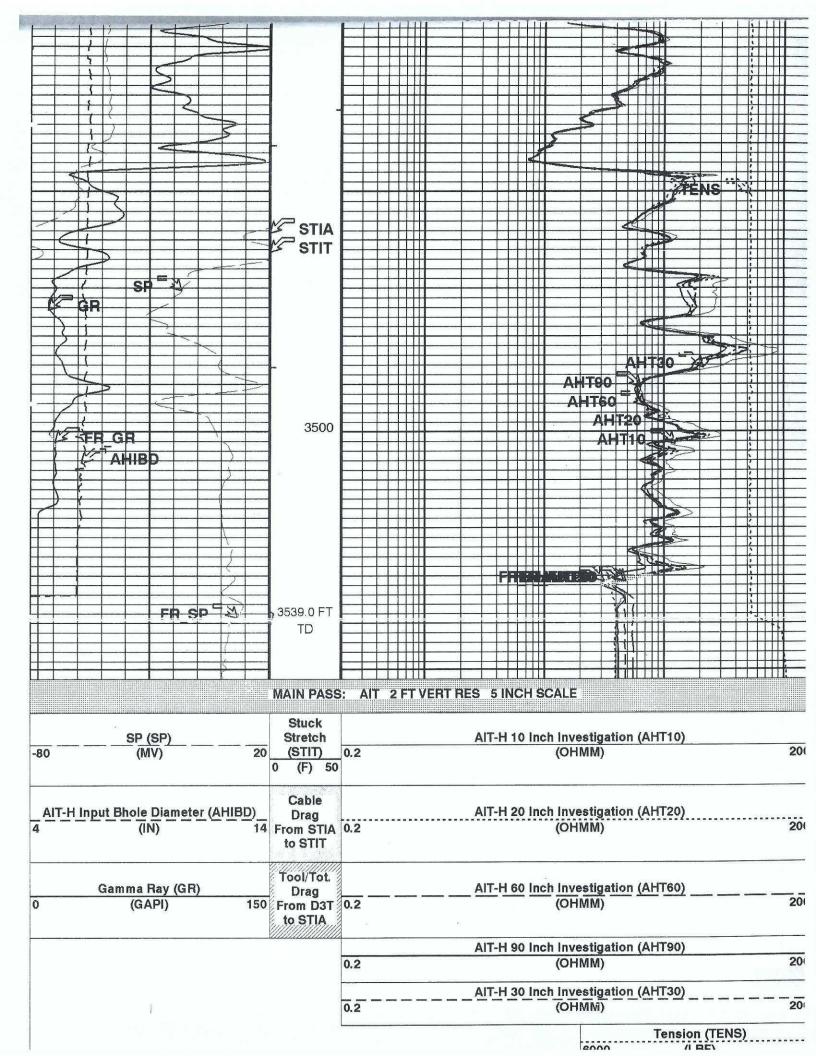


#### **EXHIBIT A**

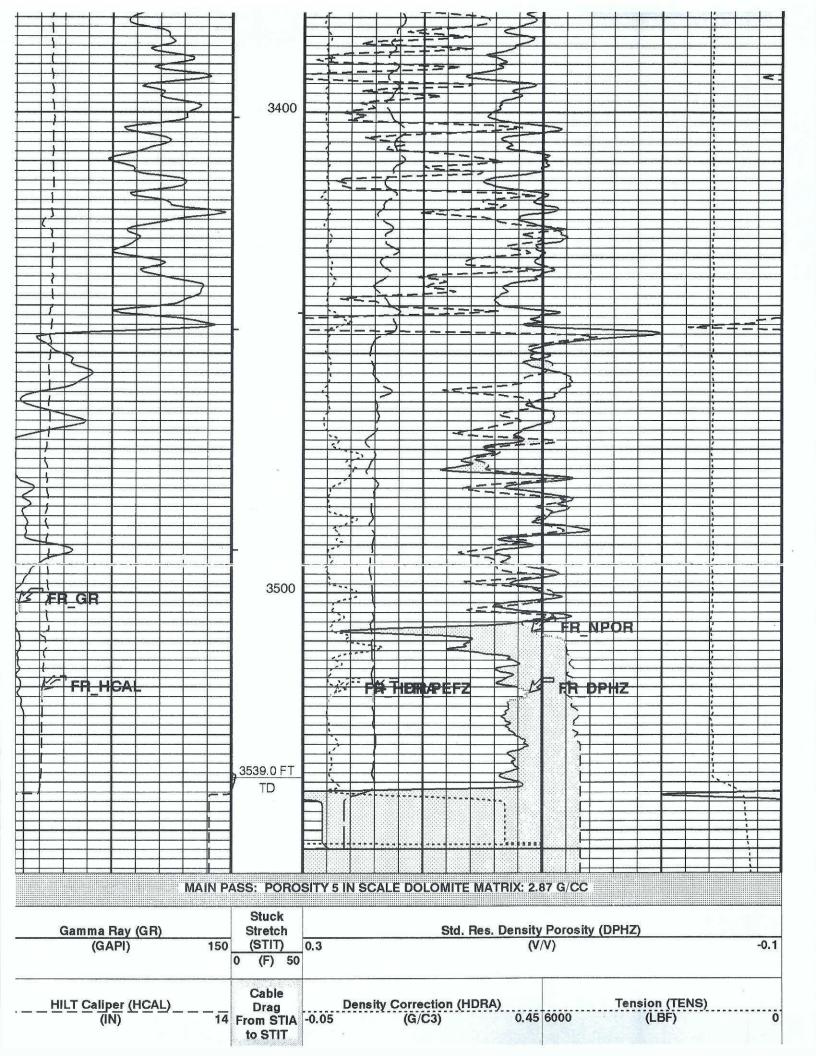
Montana BOGC Well Records

Company:   ALTAMIONT OIL & GAS; INC.			mber Location	Unit Number			, MH	7021 CHINOOK MT	Incation	Unit Number
Company: ALTAMONT-OIL & GAS, INC.   Well: JODY FIELD 4-1   Field: WILDCAT   State: MONTANA   State: MONTAN				Logger(			16:50	17-Nov-2007	Time	Logger On Bottom
Company: ALTAMONTOIL & GAS, INC.   Well: JODY FIELD 4-1			on Stopped Time	Circulation				17-Nov-2007	Time	Circulation Stopped
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Company:   ALTAMONT OIL & GAS, INC.     State:   MONTANA			Of Sample					FLOWLINE		
Company:   ALTAMONT OIL & GAS, INC.   State:   MONTANA				T			0			Fluid Loss
Company:   ALTAMONT-OIL & GAS, INC.   Spinitification   Spinitif				-			45		Viscosity	Density
Company:   ALTAMONT OIL & GAS, INC.   Well:   JODY FIELD 4-1     State:   MONTANA   MONTANA   MONTAN			aid In Hole	Type Flu				/ATER G		10000
Company:   ALTAMONT OIL & GAS, INC.   Well:   JODY FIELD 4-1   VILDCAT   State:   MONTANA   **PLATFORM EXPRESS**   ARRAY INDUCTION TOOL   Set of the control of the contr				Bit Size				6.250 in		BIT SIZE
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Company:   ALTAMONTOIL & GAS, INC.     Significant   Sig			Log Interval	Bottom				3531 ft		Bottom Log Interval
Company:   ALTAMONT OIL & GAS, INC.   State:   MONTANA			berger Depth	Schlum				3539 ft	5	Schlumberger Dept
Company:   ALTAMONT OIL & GAS, INC.   Well:   JODY FIELD 4-1			hiller	Depth D				3545 ft		Depth Driller
Company:   ALTAMONT-OIL & GAS, INC.   Well:   JODY FIELD 4-1			mber	Run Nut						Hun Number
Company:   ALTAMONT OIL & GAS, INC.   Well:   JODY FIELD 4-1			Date	Logging				17-Nov-2007		Logging Date
Company: ALTAMONT OIL & GAS, INC.  Well: JODY FIELD 4-1 Field: WILDCAT County: PONDERA  ***PLATFORM EXPRESS** ARRAY INDUCTION TOOL  WILDCAT State: MONTANA  ***PLATFORM EXPRESS** ARRAY INDUCTION TOOL  WILDCAT  NENDE SEC 4, 128N, R6W SHL: 330' FNL & 430' FEL  Drilling Measured From: KELLY BUSHING  API Serial No. Section Township Range  Run 1  State: MONTANA  ***PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  ### County: PONDERA  ***PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  ### County: MONTANA  ***PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  ### County: KB. 4075 ft					6W	28N	4	-21824	25-073	. Fi
Company: ALTAMONT-OIL & GAS, INC.  Well: JODY FIELD 4-1 Field: WILDCAT County: PONDERA  **PLATFORM EXPRESS** ARRAY INDUCTION TOOL  **PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  State: MONTANA  **PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  SHL: 330*FNL & 430*FEL  Log Measured From: KELLY BUSHING  Drilling Measured From: KELLY BUSHING  5.0 ft above Perm. Datum  SCHIUMIBUSHING  Formanent Datum: GROUND LEVEL  Dr. 4070 ft Dr. 4070 ft Dr. 4070 ft Dr. 4074 ft Dr. 4070 ft Dr. 4074 ft Dr. 4070 ft Dr. 4074 ft Dr. 4070 ft Dr. 4074 ft Dr. 4070 ft Dr. 4074 ft Dr. 4074 ft Dr. 4070 ft Dr. 4074 ft Dr. 4074 ft Dr. 4074 ft Dr. 4070 ft Dr. 4074					Range	Township	Section	rial No.	API Sei	eld: ocat ell:
Company: ALTAMONT OIL & GAS, INC.  Well: JODY FIELD 4-1 Field: WILDCAT County: PONDERA  **PLATFORM EXPRESS** ARRAY INDUCTION TOOL  ARRAY INDUCTION TOOL  SHL: 330'FNL & 430' FEL  Log Measured From: KELLY BUSHING  50 ft above Perm. Datum  KELLY BUSHING  SCHIUmibgriggr  Run 1  Schilumibgriggr  Run 1			en.				BUSHING	1	Drilling Measur	ion:
Company: ALTAMONT-OIL & GAS, INC.  Well:  JODY FIELD 4-1  Field:  WILDCAT  County:  PONDERA  ***PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  ARRAY INDUCTION TOOL  SILE DATA  NENENE SEC 4, T28N, R6W  SHL: 330"FNL & 430"FEL  Permanent Datum:  GROUND LEVEL  Bev.: KB. 4075 ft  GL. 4070 ft  D.F. 4074 ft  D.F. 4074 ft  D.F. 4076 ft					e Perm. Datum		BUSHING	Y	70.70	ν Ν Α ;
Company: ALTAMONT-OIL & GAS, INC.  Well:  JODY FIELD 4-1  Field:  WILDCAT  County:  PONDERA  **PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  **PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  **BL: 330*FNL & 430*FEL  OF. 4074ft  Bev.: K.B. 4075ft  OF. 4074ft  DF. 4074ft					Ħ	Ť	ND LEVEL	ľ.		VILE NEN IOD'
Company: ALTAMONT OIL & GAS, INC.  Well:  JODY FIELD 4-1  Field:  WILDCAT  County:  PONDERA  ***PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  ***PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  State: MONTANA  ***PLATFORM EXPRESS**  ARRAY INDUCTION TOOL  SHL: 330' FNL & 430' FEL  Bev.: KB. 4075 ft  GL. 4070 ft					4074 ft	D.F.				CA ENE Y FI IMC
pany: ALTAMONT OIL & GAS, INC.  JODY FIELD 4-1 WILDCAT PONDERA  **PLATFORM EXPRESS** ARRAY INDUCTION TOOL  NENERE SEC 4, T28N, R6W  Bev.: K.B. 4075 ft					4070 ft	G.L.		& 430' FEL		T E SI ELI
Pany: ALTAMONT OIL & GAS, INC.  JODY FIELD 4-1 WILDCAT PONDERA  ***PLATFORM EXPRESS** ARRAY INDUCTION TOOL  NEVERNE SECATION NOW  Run 1  State: MONTANA  ***PLATFORM EXPRESS** ARRAY INDUCTION TOOL					4070 ft			8 4201 [[]	מבוי מסטוראוו	D 4
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pany: ALTAMONT OIL & GAS, INC.  JODY FIELD 4-1  WILDCAT  BONDERA  State: MONTANIA				En.	Y	MONIA	טומום	\ \bar{2}	- 014061	المراباتين
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Dany: ALTAMONT OIL & GAS, INC.  JODY FIELD 4-1									WILDCA:	Field:
pany: Altamont oil & Gas, Inc.								ILU 4-1	JUDY FII	VVCII.
ALTAMONT OIL & GAS, INC.  Schlumberger  Schlumberger										\\/\ <u>\</u>  .
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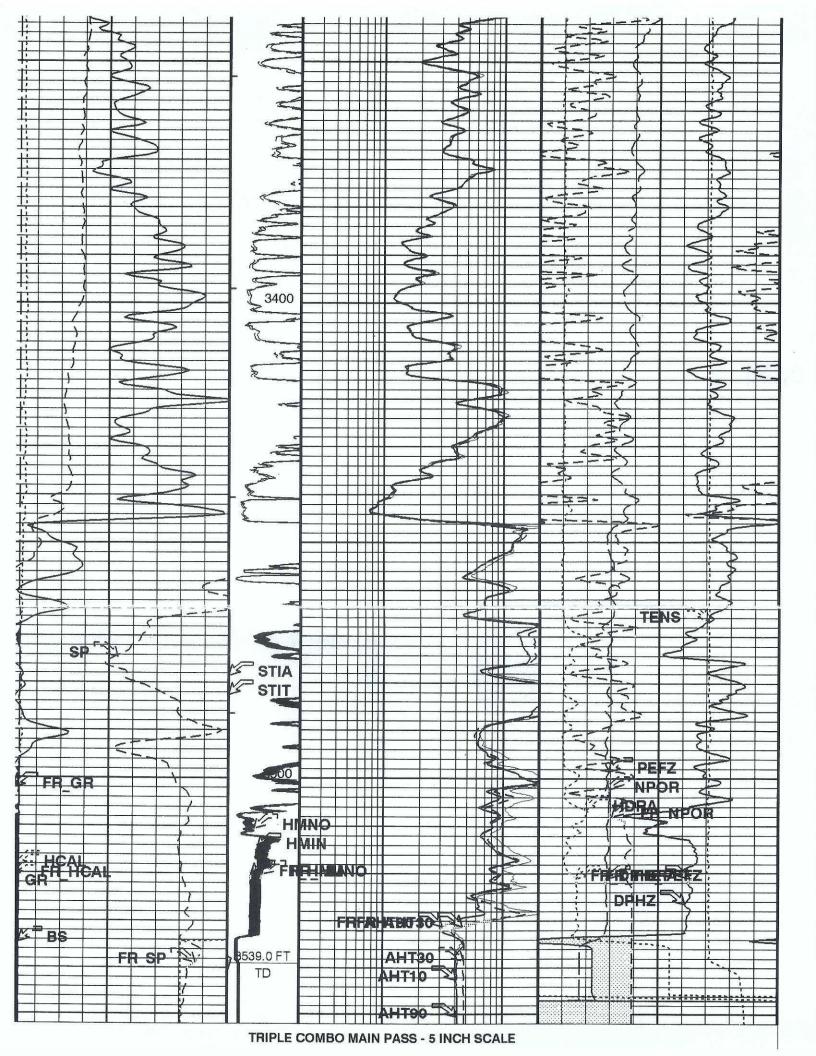




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Well:	JODY FIELD 4-1	ELD 4-1								
	WILDCAT	7								
.y:	PONDERA	RA.	State	State: MONTANA	NA A					
Э	**PLATF(	**PLATFORM EXPRESS**	1000							
3, IN	COMPEN	COMPENSATED NEUTRON	UTRON							
T28N k GAS	THREE D	ETECTOR	THREE DETECTOR LITHODENSITY	Ĭ						
1-1 01L 8	NENENE SEC	NENENE SEC 4. T28N R6W		Flev KR	4075 ft					
SEC LD (	SHL: 330' FNL & 430' FEL	L & 430' FEL			4070 ft					
CAT ENE ' FIE MO!				D.F.	4074 ft				Swater and Control	
ODY	Permanent Datum:	1	GROUND LEVEL	Elev.: 4070 ft	f					
on: N J any: A	Log Measured From: Drilling Measured From:	1 1	KELLY BUSHING	5.0 ft above	above Perm. Datum					
Count Field: Locati Well: Comp	API Se 25-073	API Serial No. 25-073-21824	Section 4	Township 28N	Range					
Logging Date		17-Nov-2007				Logging Date				le le
Run Number		-				Run Number				
Depth Driller		3545 ft				Depth Driller				
Schlumberger Depth		3539 ft				Schlumberger Depth	Depth			
Bottom Log Interval		3531 ft				Bottom Log Interval	terval			
Casing Driller Size @	ODenth	7 000 in				Top Log Interval	<u>a</u>			
Casing Schlumberger	, pebul	894 #	894 11		(0)	Casing Driller	Casing Driller Size @ Depth	0	@	
Bit Size		6.250 in				B# Size	berger			
Type Fluid In Hole		FRESH WATER GEL	GEL			Type Fluid In Hole	ole			
	Viscosity	9 lbm/gal	34 s			200	Viscosity			
Source Of Sample		6 cm3	10			N Fluid Loss	PH			
RM @ Measured Tem	Doroturo	A DAO ohm				Source Of Sample	nple			
RMF @ Measured Temperature	mperature	3.232 ohm m	© 69 degF		9	RM @ Measure	RM @ Measured Temperature	@	10	
RMC @ Measured Temperature	mperature	5.280 ohm.m				BMC Measu	BMC Measured lemperature	@	(0)	
F	NO	CALCULATED	C			Source RMF	Source RMF RMC	@		
Maximum Boordod T	TOTAL WILL	4.051 @ 69	3.241 @ 69	@	@	RM @ MRT	RMF @ MRT	@	@	
Circulation Stopped Time	Time	17-Nov-2007				Maximum Reco	Temper			
Logger On Bottom	Time	17-Nov-2007	16:50			logger On Bottom				
Unit Number	Location	7021 CHING	CHINOOK, MT		N. S. S. S. S. S. S. S. S. S. S. S. S. S.	Unit Number				
Recorded Rv		BOY DAVIS				Cinc I dani DCI	Location			



				Schlun	Schlumberger			Run 1	Run 2	ת
Company:	ALTAM	S TIO LNC	ALTAMONT OIL & GAS, INC.							
Well:	JODY F	JODY FIELD 4-1								
Field:	WILDCAT									
County:	PONDERA	RA		State: MONTANA	VA					
	", PLAIF	""PLAIFORM EXPRESS**	ESS**	# F						
	COMPEN	ISATED NE	COMPENSATED NEUTRON / LITHODENSTIY	HODENSTI	7					
	ARRAY II	ARRAY INDUCTION TOOL	TOOL							
4-1	NENENE SEC	NENENE SEC 4, T28N, R6W		Elev.: K.B.	4075 ft					
DERA CAT ENE SI FIELD MONT	SHL: 330' FNL & 430' FEL	L & 430' FEL		<u>p.</u> F.	4070 ft 4074 ft					
VILC NENI OD)	Permanent Datum:	L	GROUND LEVEL	Elev.: 4070 ft						
: N : S y: A	Log Measured From:	1	KELLY BUSHING	5.0 ft above	above Perm. Datum					
atior I:	Dilling Weasured Fight.	1	NELLY BUSHING							
Fiel Loc Wel Con	25-07	API Serial No. 25-073-21824	Section 4	Township 28N	Range 6W					
Logging Date		17-Nov-2007				Logging Date				
Denth Driller		7				Run Number				
Schlumberger Denth		3520 #				Depth Driller				
Bottom Log Interval		3531 #				Schlumberger Depth				
Top Log Interval		894 ft		The second		Bottom Log Interval				
Casing Driller Size @ Depth	Depth Depth	7.000 in	@ 894 ft	9	9	Casing Priller Size Size				
Casing Schlumberger	Ä	894 ft		The second secon		Casing Schlumberger	nid		@	
Bit Size		6.250 in				Bit Size				
IN TIONE	F	FRESH WATER GEL	GEL			Type Fluid in Hole				
D Fluid loss PH	PH	9 lbm/gal	34 s				sity			
Source Of Sample		FLOWLINE	ō			M Fluid Loss PH				
RM @ Measured Temperature	perature	4.040 ohm.m	@ 69 deaF	9	9)	PM Monage				
RMF @ Measured Temperature	mperature	3.232 ohm.m		0	9	RMF @ Measured Temperature	ature		@	
sured	mperature	5.280 ohm.m			@	RMC @ Measured Temperature	rature		9 (0	
BM @ MRT BN	HMC MAT	ULAT	ULATE			Source RMF RMC	Siardic		(6)	
ecorde	d Temperatures	69 deaf	3.241 (0) 69	@	@	RM @ MRT RMF	RMF @ MRT	@	@	
Circulation Stopped	Time	17-Nov-2007				Circulation Stopped Time	peratures			
Logger On Bottom	Time	17-Nov-2007	16:50			Logger On Bottom	Time			
Unit Number	Location	7021 CHINC	CHINOOK, MT		-	4	location	_		
				=			T COLUMN		12	-



LOCATE WELL CORRECTLY

#### (SUBMIT IN TRIPLICATE)

#### TO BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA BILLINGS OR SHELBY

ARM 36.22.307 ARM 36.22.1011 ARM 36.22.1013

## COMPLETION REPORT

٨٦	TIMONIT	OIL & GAS	TNC	Lease	JODY	FIEL	DS			Well	No. 4-	1
company A	LIAMONI	OIL & GAD	1110					-> WTT.I	CAT			
ddress_P0	BOX 200	) - CUT BAI	IK MT	59427	Fi	eld (or . (E)	Area	a)	/.			
he well is lo	ocated	$\frac{330}{\text{ft. fro}}$	m (SS) line	and 430	ft. fr	om (XXX	) lin	e of Sec	<u></u>		40701	CT.
3	т. 28	8 ; R. 6	; Cou	ntyPO	ONDERA				; Elevati	ion	(D.F., R.B.	or G.L.)
Commenced	drilling	Novemb	er 5, 20	07 <b>xy</b>	; Co	mplete	d	Novembe	10, 4	,007		,23230
Write the AI	PI# or the	e well name	of anothe	r well on t	his lea	se if on	ie ex	kists //				·
The info	rmation g	given herewit	h is a con	iplete and o	correct	record	oft	ie well. The	summa	ıryon	this pa	ge is for
he condition	n of the v	well at the al	oove date.		Signe	15	7	Solide	1		/	
Completed a	(OII WCII.	gas wen, day non	)	<del></del>	Signe	PATR		M. MONTA	LBAN			
API#25- <u>07</u> 3	3 - 2182	24			Title _			NT & CEO				
					Date _	DECE	MBE.	R 31, 200	08			
			IMPO	RTANT ZO	NES O	PORC	SIT	Y	· · · · · · · · · · · · · · · · · · ·			
		(denote oil	by O, gas	by G, water	er by W	; state	form	nation ii k	nowii)			
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From 3456	7' to_	3474 <b>'</b>	O.G &-W		V3			to				
From					From			_ to				
				CASING	G RECO	ORD						
							<del></del> 1		Sack o			and d from
Size Casing	Weight Per Ft.	Grade	Thread	894.41		Fron	n	894.41	180 S	acks	Class	G Cemen
7"	17#/ft 10.5#/		ST&C ST&C	3545		894.	41'	3454!	100 S	acks	Class	G Cemen
4-1/2"	10.547	IL ALL	DIGG					910				
				TUBIN	G RECO	)RD		<del></del>	Desfora	tions		W
	Siz Tubi	ng Pe	eight er Ft.	Grade	Thr ST&0			8 Jts	Perfora			
	2-3/	8" 4.7	#/ft	J55								
		sed from		COMPLE				to	3545			
Rotary tool	ls were u	sed from		U				_ to		+,	`	
Total depth	3545	sed from ft.; Plugg	ed back to	3463'	T.D	.; Open	hol	e from			,	
				I -				HOT, SAND FR				
Inter		Number	and	Inte	erval			Amount of Material Used	1		Press	sure
From	To	Size and		From	То			Waterial osci			Ties	
3446	3450 <b>'</b>	3-1/8" HS	C									
3466'	3470	111		1						-		
3470 <b>'</b>	3474 <b>'</b>					i	(16.1	P&A show plu	as above)	4		
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		SUBSECTION CONTROL OF THE STATE OF						ation				
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I.P	7	barrels of o	l per	1h	ours _	(pump	ing o	r flowing)				- Constitution of the Cons
		s per	_hours.					0.0	w.c			
	mci oi gas	, pc	barre	is of water per		hours	, or_	%	w.c.			

0000100	e lif meser	ured). Tr	ibing	F	si flowing	bbl./day) g;	(II (AIXCII)		psi shut-i
сѕѕиге	o (II IIIcas)	Ca	sing	p:	si flowing	;			her erren-
vity_		° API (co	rrected to	60° F.)					
	m Values I	Tactor	5000	Porosity		%	Average Connate	e water	
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					STEM 1	ESTS			
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	NONE	10.							
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0.	Internval		5,2 4000000		38	ARRAY II	NDUCTION LOG	894'	3531
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#### OPERATIONAL SUMMARY

and

#### GEOLOGICAL WELL HISTORY

Altamont Oil and Gas Inc. Altamont/Jody Field No. 4-1 NENENE Section 4-T28N-R6W (330' FNL – 430'FEL) Glacier County, Montana API No. 25-073-21824

Wildcat

Patrick M. Montalban Petroleum Geologist P.O. Box 488 Cut Bank, Montana 59427

#### Resume

Spud Date:

Completion Date:

Status:

Total Depth:

Casing:

Eleavtion:

Contractor:

Type Rig: Mud Pump:

Air Compressor:

Air Program:

Mud Program:

Hole Size: Size Drill Pipe:

Size Drill Collars:

No. Drill Collars:

Sample Intervals:

Sample Quality:

Cores:

Drill Stem Tests:

November 5, 2007

Novemebr 18, 2007

Madison Sun River Dolomite "Wildcat Oil Well

Discovery"

4070'GR. 4075'KB.

3545' Driller 3539' Logger

Ran 21 joints 7",17#/ft,ltd,8rd,ST&C,Rge 3,(896.91)

set@894.41KB cemented with 180sx Class G cement,3%Calcium Chloride, 3% Calcium

chloride, 1/2# flocelle.

Ran 85 joints41/2",10.5#/ft,8rd,ST&C,Rge3 (3549.57') set @3546.57' KB cemented with 100 sx Class G, 10% Nacl,10% Fine Mica,

1/4 #/sack flocelle

GaSco Drilling LLC Rig No.5

Atlas Copco (Tophead Drive) National Ideal C - 150 (6 1/2" x 12")

Dawoo Industries (1250mmcf 350psi)

Surface to 3390'

3390'-3545'

8 3/4" (0-897') 6 1/4" (897' - 3545 ') 3 1/2" O.D. x 2 1/2" I.D. (13.30 #/ft.)

4 3/4"O.D. x 2 1/8" I.D.(353') Weight Pipe =

4 ½"O.D. x 2"I.D.(16.60#/ft.)(120")

13 = 353

30'(1950'-2310')(2560'-2980')10'(1700'-1950')

(2310' - 2560')(2980' - 3450')(3470' - 3480')

(3490' - 3545')

5'(3450' - 3470')(3480' - 3490') Poor while drilling with mud.

None

None

Air Drilling Summary

Drilled 8 3/4" hole with air (mist) from 37' to 897'.Did not show strong flow of water through the drlling of the surface hole. Drilled 6 ¼" hole with air from 897' to 1938'. 1 second flare @ 1938'(T.S.T.M.) Drilled 6 ¼" hole with air from 1938' to 2224' 2 second flare @ 2224'(T.S.T.M.). Drilled 6 ¼" hole with air from 2224' to 2510'. 3 second flare @ 2510'(T.S.T.M.). Drilled 6 ¼" hole with air from 2510' to 3390' and did not encounter water. Total depth 3390' by driller with air. Converted to mud drilling program at 3390'.

Sample Distribution

None Required by the Montana Oil and Gas Conservation Commission, 2535 St. Johns Ave., Billings Montana in accordance with Rule No. 229

Logging Summary

Ran Schlumberger Platform Express Array Induction Log from 894' to 3531'.Ran Schlumberger Platform Express Compensated Neutron & Three Detector Density from 894' to 3531'.

#### Mud Summary

Gel –104sx Reosamart – 1sx Maxi Seal - 8sx Air Foam – 1 - 1 Gallon Containers Caustic Soda – 3sx Poly Plus – 1 x 5 gallon

Drilling Zone – 2 x 5 gallon Poly Pac UL – 3 sx ReoSmart – 1 Platinum PacUL – 3sx Sodium Bicarbonate – 1sx

				Bit Recor	:d			
No.	Size	Make	Type	Interval	Footage	Hours	Jet Size	Serial No.
1	8 3/4"	STC	F-20	0 - 897	897	36.00	open	
2	6 1/4"	HTC	ER-20	897-3545	2648	50.75		51080508

#### Vertical Surveys

Depth	Degrees
897'	1 1/2*
1525'	3/4*
2002'	1*
2574'	$2^{3/4}*$
3018'	2 1/2*

#### Electric Log Formation Tops

Cretaceous	Depth	Datum
Colorado		
Two Medicine		
Blackleaf	1786	+2289
Blackleaf Bentonite Marker	1825	+2250
Blackleaf Sandstone	1830	+2245
Base Fish Scales		
1 <sup>st</sup> Bow Island	1884	+2191
2 <sup>nd</sup> Bow Island	2026	+2049
3 <sup>rd</sup> Bow Island	2134	+1941
4 <sup>th</sup> Bow Island "A"	2367	+1708
4 <sup>th</sup> Bow Island "B"	2413	+1662
Dakota	2539	+1536
Kootenai	2582	+1493
Sunburst	3079	+996
Jurassic		
Morrison	3135	+940
Swift	3208	+867
Rierdon(Ellis Shale)	3331	+744
Sawtooth	3416	+659
Mississippian		
Madison(Sun River Dolomite)	3445	+630
Total Depth:	3539	+536

#### Daily Activity Summary (Calendar Days)

November 6,2007 Moved in and Rigged up Gasco Drilling LLC Rig No. 5.

Spud 8 3/4" hole at 4:30P.M. Drilled 8 3/4" surface hole from 0'

to 19'. Drive 9 5/8" casing set @ 15.00' set @ 19'. Repair upper radiator hose. Nipple up deflector head. Drillled 8 3/4" surface hole with air mist from 15' to 154'.

November 7,2007 Drilled 8 3/4" surface hole with air mist from 154' to 669'.

November 8,2007 Drilled 8 3/4" surface hole with air mist from 669 to 897'.

Total Depth 897' by Driller. Condition hole for surface casing.Ran 23 joints 7",17#/ft,Ltd,8rd,ST&C,(896.91)set @ 894.41.'KB cemented with 180 sacks Class G cement + 3% Calcium Chloride,1/2#/sack focelle. Good returns to surface.

Plug down at 1:45 P.M. W.O.C. Nipple up BOP.

Rig down and move off location. Wait on new drilling rig.

November 13,2007 T.D. 897'. Moved in and rigged up Gasco Drilling LLC Rig No.

7. Work on rig floor. Nipple up B.O.P.. Work on hydrolics. Trip in hole with 6 ¼" bit.Clean and dry hole. Drilled cement plug and dry

hole.Ran survey.

November 14,2007 T.D. 897'. Dry hole. Drilled out @ 3:05A.M.. Drilled 6 1/4" hole

with air from 897' to 2420'.

November 15,2007 Drilled 6 1/4" hole with air from 2420' to 3370'.

November 16,2007 Drilled 6 1/4" hole with air from 3370' to 3390'. Drilled to 3390'

Total depth by driller with air. Did not encounter any moisture of any kind. Converted to drilling mud @ 12:30A.M. Drilled out with drilling mud @ 10:10P.M. Drilled 6 1/4" hole with drilling mud

from 3390' to 3545'. Total depth 3545' by driller.

November 17,2007

T.D. 3545'. Condition hole for logs. Short trip. Condition hole for logs. Trip out of hole for open hole logs. Rig broke down to repair Boom a number of times. Ran Schlumberger logs. Rig up to run production casing. Began to run production casing.

November 18,2007

Ran 85 joints 4 ½",9.5#/ft,API.,J55,8rd,ST&C,Rge 3 (3549.57') set @ 3546.47'. Lower viscosity to 40. Cemented Well with 100 sacks Class G cement with 10%Nacl,10% Fine Mica,1/4# flocelle,Plug down @5:50A.M.. Set 4 ½" casing in the Slips. Rigged down. Report Ends

#### Lithology

Sample descriptions begin at 1700', in the Cretaceous Colorado. Sample descriptions are not corrected for drill time lag. Formation tops were determined from electric logs. Samples were examined and described wet except for the samples in the Mississippian Madison Sun River Dolomite that were described dry.

#### SAMPLES CAUGHT IN 10' INTERVAL:

1700 - 1710	Shale,dk grey,chunky,firm,dense,noncalcareous,earthy textured,gritty in
	parts.

- 1710 1720 same as above.
- 1720 1730 Shale,grey,chunky,firm,dense,noncalcareous,earthy textured to gritty textured,sandy in parts.
- 1730 1740 Shale, grey, chunky, platy, firm, dense, nncalcareous, earthy textured, micromicaceous. Bentonite, tan, soft, lumpy.
- 1740 1750 same as above. Bentonite, tan, white, soft, lumpy.
- 1750 1760 Shale, grey, chunky, platy, firm, dense, noncalcaroeus, earthy textured, micromicaeous.
- 1760 1770 same as above.
- 1770 1780 Shale, grey, chunky, firm to hard, dense, noncalcareous, earthy textured, microcmicaceous.
- 1786 E Log Top Blackleaf
- 1780 1790 Shale,dk greyish black,chunky,blocky,firm to hard,dense,very calcareous, many tan specks.
- 1790 1800 Shale as above.

- 1800 1810 Shale,dk grey,chunky,blocky,firm to hard,dense,very calcareous, earthy textured,many tan specks.
- 1810 1820 same as above.
- 1825 E Log Top Blackleaf Bentonite
- 1820 1830 Shale, dk grey, chunkyfirm, dense, calcareous, earthy textured.
- 1830 E Log Top Blackleaf Sandstone
- 1830 1840 Shale, grey, chunky, firm, dense, noncalcareous, earthy textured, Bentonite, white, soft, lumpy, micromicaceous.
- 1840 1850 Shale as above.
- 1850 1860 Shale, grey, chunky, firm, dense, noncalcareous, earthy to gritty textured. Siltstone, grey, blocky, hard, dense, noncalcareous, tight.
- 1860 1870 Sandstone, grey, very fine to fine grained, subrounded to subangular, Moderately sorted quartzose, many clear and grey grains,
- 1870 1880 Shale,dk grey,chunky,firm,dense,noncalcareous,earthy textured, many unconsolidated grains in sample pan. Siltstone,grey,blocky,hard, dense,noncalcaeous,tight.
- 1884 1st Bow Island
- 1880 1890 Many unconsolidated grains in sample pan.Bentonite,tan,soft, lumpy.
- 1890 1900 same as above.
- 1900 1910 Siltsone, grey, blocky, hard, dense, noncalcareous, tight
- 1910 1920 Shale, grey, chunky, firm, dense, noncalcareous, earthy to gritty textured. Siltsone as above. Unconsolidated grains in sample pan.

1920 - 1930Bentonite, tan, white, soft, waxy, lumpy, micromicaceous. Shale, dk grey Chunky, hard, dense, noncalcareous, earthy textured. 1930 - 1940Shale, grey, chunky, firm, dense, noncalcareous, earthy textured. 1940 – 1950 Bentonite, tan, soft, lumpy. Many unconsolidated grains in sample pan. Begin 30' Samples 1950 - 1980Sandstone, grey, very fine grained, rounded, well sorted quartzose, many clear and grey grains, trace glauconite grains. 1980 - 2010Bentonite, tan, soft, lumpy. Shale, greenish grey, chunky, firm, dense, noncalcareous, gritty textured. Siltstone, greenish grey, blocky, hard, dense noncalcareous, tight.  $2026 - E \text{ Log Top} - 2^{nd} \text{ Bow Island}$ 2010 - 2040Sandstone, grey, very fine to fine grained, rounded to subrounded, well sorted quartzose, many clear grains, few black chert grains, few glauconite grains. 2040 - 2070Shale, choclate brown, chunky, firm to hard, dense, waxy textured, trace orange zeolites. Bentonite,tan,soft,lumpy 2070 - 2100Shale, lt green, chunky, firm, dense, noncalcareous, waxy textured. Much Bentonite, tan, soft, lumpy. 2100 - 2130Sandstone, greenish grey, very fine to medium grained, coarse grained in parts, subrounded to angular, poorly sorted quartzose, many clear grains, trace black chert grains, trace glauconite grains. 2134 – E Log Top – 3<sup>rd</sup> Bow Island

Sandstone, brownish white, very fine grained, rounded, well sorted

quartzose, many clear and grey grains.

2130 - 2160

- 2160 2190 Shale, black, chunky, firm, dense, noncalcareous, waxy textured.
- 2190 2220 Bentonite,ten,soft,lumpy,micromicaeous, Shale,lt green,chunky, Soft,dense,noncalcareous,waxy textured.
- 2220 2250 Shale, green, grey, chunky, soft to firm, dense, noncalcareous, earthy to waxy many orange zeolites. Textured. Bentonite, tan, soft, lumpy.
- 2250 2280 Bentonite,tan,soft,lumpy. Sandstone,brown,very fine grained,rounded, well sorted quartzose.
- 2280 2310 Shale, grey, chunky, soft to firm, dense, noncalcareous, earthy to gritty Textured. Bentonite, tan, soft, lumpy.

#### Resume 10' Samples

- 2310 2320 Shale,dk grey,chunky,firm,dense,noncalcareous,earthy to gritty textured. Bentonite,tan,soft,lumpy.
- 2320 2330 Bentonite, tan, soft, lumpy. Shale as above.
- 2330 2340 Sandstone,dk grey,very fine grained,well sorted,rounded quartzose many unconsolidated grains in sample pan,many clear and grey grains, trace glauconite grains. Bentonite,tan soft,lumpy. Shale,dk grey,chunky firm,dense noncalcareous,gritty textured.
- 2340 2350 Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
- 2350 2360 same as above.
- 2367 E Log Top 4<sup>th</sup> Bow Island "A" Sandstone
- 2360 2370 Sandstone, grey, very fine to fine, rounded to subrounded, moderately sorted quartzose, noncalcareous, many clear grains, few black chert grains, few glauconite grains.

2370 - 2380Sandstone, grey, very fine grained, rounded, well sorted quartzose Many clear grains, many grey grain, few glauconite grains. 2380 - 2390same as above. 2390 - 2400Shale, dk grey, chunky, firm, dense, noncalcareous, gritty textured bentonite, tan, soft, lumpy. Many unconsolidated grains in sample pan. 2400 - 2410Shale, dk grey, chunky, firm, dense, noncalcareous, gritty textured sandy in parts. Bentonite, tan, soft, lumpy. 2413 - E Log Top - 4th Bow Island "B" Sandstone Sandstone, grey, very fine grained, rounded, well sorted 2410 - 2420quartzose, many clear and grey grains, few glauconite grains. 2420 – 2430 same as above becoming slightly coarser grained, very bentonitic. 2430 - 2440Sandstone, dk grey, very fine grained, rounded to subrounded, well sorted quartzose, many grey grains, few glauconite grains, bentonitic. Shale,dk grey,chunky,firm,dense,noncalcareous,gritty to sandy 2440 - 2450textured. Many unconsolidated grains in sample pan. 2450 - 2460Shale, grey, chunky, soft to firm, dense, noncalcareous, gritty textured unconsolidated grains in sample pan. 2460 – 2470 same as above. Bentonite, tan, soft, lumpy. 2470 - 2480Shale,dk grey,grey,chunky,firm,dense,noncalcareous,earthy textured, Bentonitic. 2480 - 2490Shale, grey, chunky, soft to firm, dense, noncalcareous, earthy textured, Micromicaceous.

2490 - 2500same as above. Many unconsolidated grains in sample pan. 2500 - 2510Shale, grey, dk grey, chunky, firm, dense, noncal careous, earthy to gritty textured. Bentonite,tan,soft,lumpy. 2510 - 2520Sandstone, grey, very fine grained, rounded, well sorted quartzose Many clear and grey grains, few glauconite grain, bentonitic. 2520 - 2530Many unconsolidated grains in sample pan. Shale, grey, chunky, firm, dense, noncalcareous, gritty textured. Sandstone as above. 2539 – E Log Top - Dakota Shale, grey, chunky, firm, dense, noncalcareous, earthy textured, 2530 - 2540micromicaceous.Bentonite,tan,soft,lumpy. Sandstone, lt grey, very fine grained, rounded, well sorted quartzose 2540 - 2550many clear grains few grey grains. 2550 - 2560Sandstone, clear, very fine grained, rounded to subangular, well sorted Quartzose, many clear grains, few grey chert grains, bentonitic. Resume 30' Samples 2582 – E Log Top - Kootenai 2560 - 2590Sandstone, brown, very fine to medium grained, rounded to subangular Moderately sorted quartzose, many unconsolidated grains.Bentonite,tan,soft. Shale, grey, chunky, firm, dense, noncalcareous, earthy to 2590 - 2620

gritty textured.

2620 - 2650Sandstone, grey, very fine to fine grained, rounded to subrounded, well to moderately sorted quartzose, many clear grains, many grey shale inclusions many black chert grains. 2650 - 2680Sandstone, grayish white, very fine to fine grained, rounded to subangular, moderately sorted quartzose, many clear grains, many grey and black grains. 2680 - 2710Shale, brick red, green, lt green, chunky, soft to firm, dense, noncalcareous, earthy to gritty textured. 2710 - 2740Sandstone, green, lt green, very fine grained, rounded, well sorted quartzose many unconsolidated grains, many clear grains, orange shale as above. Shale green, chunky, firm, dense, noncalcareous, gritty textured. 2740 - 2770Shale, grey, chunky, platy, firm, dense, noncalcareous, earthy textured. Bentonite, tan, soft, lumpy. 2770 - 2800Sandstone, green, lt green, very fine to fine, rounded to subrounded, well sorted quartzose, many clear and frosted grains, many glauconite grains. 2800 - 2830Shale, green, chunky, firm, dense, noncalcareous, earthy textured, smooth. shale, grey, chunky, firm, dense, noncalcareous, earthy textured. 2830 - 2860Shale, brick red, maroon, green, grey, chunky, firm, dense, noncal careous, gritty textured.Bentonite, white, soft waxy. 2860 - 2890Shale, multicolored, green, brick red, grey, reddish brown, maroon, chunky, soft to firm, dense, noncalcareous, earthy textured. 2890 - 2920Sandstone, grey, very fine to fine grained, rounded to subangular, moderately Sorted quartzose, many clear grains, many grey grains, many amber grains, Bentonitic.

2920 - 2950Sandstone, dk brown, very fine grained, rounded, well sorted quartzose, Bentonitic, tan, soft, lumpy. 2950 - 2980Shale, brick red, chunky, soft to firm, dense, noncalcareous, gritty textured. turns sample bag bick red. Begin 10' Samples 2980 - 2990Shale, brown, brick red, chunky, firm, dense, noncal careous, earthy to gritty textured. 2990 - 3000Shale, green, chunky, soft to firm, dense, noncalcareous, gritty textured, sandy in parts. Bentonite, tan, soft, lumpy. Shale, grey, chunky, platy, soft to firm, dense, noncalcareous, gritty textured. 3000 - 30103010 - 3020Shale, multicolored, green, grey, brick red, brown, reddish brown, maroon, chunky, firm, dense, noncalcareous, earthy textured, motteled in parts. 3020 - 3030Sandstone, grey, very fine grained, rounded to subrounded, well sorted quartzose, many clear grains, many black shale inclusions, trace green grains, trace amber grains. 3030 - 3040Sandstone, grayish white, very fine grained, rounded, well sorted quartzose, many clear grains, trace black and grey shale inclusions, trace amber grains. 3040 - 3050Shale, multicolored, brick red, green, grey, brown, maroon, chunky, soft to firm, dense, motteled, noncalcareous, earthy textured. 3050 - 3060Shale, brick red, grey, green, chunky, firm, dense, noncal careous, earthy textured, smooth. 3060 - 3070Shale, grey, green, chunky, blocky, firm, dense, noncal careous, earthy to slightly gritty textured.

- 3079 E Log Top Sunburst
- 3070 3080 same as above.
- 3080 3090 Sandstone, white, clear, very fine to fine grained, rounded to subrounded, well sorted quartzose, many clear grains, trace amber grains, few grey chert grains.
- 3090 3100 Sandstone, white, clear, very fine to fine grained, rounded to subrouned, well Sorted quartzose, many clear grains, few grey chert grains, trace amber Grains.
- 3100 3110 Shale, green, lt green, chunky, firm, dense, noncalcareous, earthy textured Smooth. Bentonte, tan, cream, soft, lumpy.
- 3110 3120 Shale,green,chunky,blocky,firm,dense,nocalcareous,earthy to waxy Textured. Bentonite,white,soft,lumpy.
- 3120 3130 Shale,greenish grey,chunky,firm,dense,noncalcareous,waxy textured.

  Much Bentonite,white,soft,lumpy. Many coarse grained,angular orange grains in sample pan. Many unconsolidated grains in sample pan.
- 3135 E Log Top Morrison
- 3130 3140 Sandstone, white, clear, very fine to fine grained, rounded to subrounded well to moderately sorted quartzose, many clear and frosty grains. few grey grains.
- 3140 3150 Shale, multicolored, green, lt green, maroon, grey, "baby poop yellow", chunky, soft to firm, dense, noncal careous, earthy textured.
- 3150 3160 Shale, brick red, reddish brown, trace yellow above, chunky, soft to firm, Dense, noncalcareous, earthy textured, Bentoite, white, soft, lumpy.

3160 - 3170Shale, maroon, greenish grey, grey, chunky, soft to firm, dense, Noncalcareous, earthy to waxy textured. Bentonite, white, soft. 3170 - 3180Shale, baby poop yellow, chunky, soft, noncalcareous, earthy textured. Shale, grey, lt grey, chunky, soft firm, dense, noncalcareous, earthy textured. 3180 - 3190Siltstone, brown, chunky, blocky, firm to hard, dense, very calcareous, tight,no shows. Shale, grey, chunky, soft to firm, dense, calcareous, earthy to gritty textured. 3190 - 3200Shale, dk grey, chunky, soft to firm, dense, calcareous, earthy to gritty textured, sandy in parts. 3208 – E Log Top - Swift Sandstone, brown, very fine to fine grained, rounded to subrounded, well 3200 - 3210 sorted, quartzose, many clear and dark grains. Shale,dk grey,chunky,soft to firm,dense,noncalcareous,gritty 3210 - 3220Textured. Many very fine grains in sample pan. 3220 - 3230Sandstone, brown, very fine to fine grained, rounded to subangular, well to Moderately sorted quartzose, many clear grains and few grey grains. 3230 - 3240Sandstone as above. Shale, dk grey, chunky, firm, dense, noncalcareous, gritty textured. 3240 - 3250Sandstone, brown, very fine to fine grained, rounded, well sorted quartzose many clear grains. Shale dk grey, chunky, soft to firm, dense, noncalcareous gritty textured. 3250 - 3260 same as above. 3260 – 3270 Sandstone, brown, very fine grained, rounded, well sorted quartzose many clear and grey grains.

3270 - 3280	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
3280 – 3290	Shale,grey,chunky,platy,firm,dense,noncalcareous,earthy to gritty textured.
3290 - 3300	Shale, grey, chunky, platy, firm, dense, noncalcareous, earthy textured.
3300 – 3310	Shale,grey,lt grey,chunky,platy,firm,dense,noncalcareous,earthy Textured.
3310 – 3320	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
3320 - 3330	Shale as above.
3331 – E Log	Top Rierdon
3330 – 3340	Marlstone,dove grey,chunky,blocky,firm to hard,dense,very calcareous earthy textured,micropyritic. Marlstone,tan,soft,lumpy,very calcareous.
3340 – 3350	same as above.
3350 – 3360	Marlstone,dove grey,chunky,soft to firm,dense,very calcareous,earthy textured,micropyritic.
3360 – 3370	same as above.
3370 – 3380	Marlstone,dove grey,chunky,firm to hard,dense,very calcareous, earthy textured,micropyritic. Marlstone,tan,soft,lumpy.
3380 – 3390	Marlstone as above.
Convert to Dr encounter any	illing mud. Drilled to Total Depth 3390 by Driller with air.Did not moisture.

- 3390 3400 Marlstone as above.
- 3400 3410 Marlstone, dove grey, greenish grey, chunky, firm to hard, dense, very calcareous, earthy textured, micropyritic.
- 3416 E Log Top Sawtooth
- 3410 3420 same as above. Poor sample many cavings.
- 3420 3430 Siltstone,lt grey,chunky,blocky,soft to hard,dense,very calcareous, micropyritic. Poor sample 50% cavings
- 3430 3440 Siltstone,lt grey,grey,chinky,blocky,firm to hard,dense,very calcareous Earthy texyuted,micropyritic.
- 3445 E Log Top Madison Sun River Dolomite
- 3440 3450 Dolomite,tan,buff,chalky to sublithograpic in most parts,Trace Dolomite Tan,buff,finely microcrystalline to pin point vugular porosity,fair Petroliferous odor,bright yellow fluorescence,stong flowing cut in Trichloroethane, possible oil pay.

#### Begin 5' Samples

- 3450 3455 Dolomite as above. Dolomite,tan,buff,finely microcrystalline porosity, Large pin point vugular porosity,fair to strong petroliferous odor,bright Yellow porosity,live brown oil stain,strong flowing cut in trichloroethane "Oil Payzone".
- 3455 3460 Dolomite,tan,buff,chalky,sublithgraphic,tight,dense,no shows. Few clusters with show as above.

- 3460 3465 Dolomite,tan,buff,cryptocrystalline to chalky,dense,nonshows, Dolomte as above,shows as above.
- 3465 3470 Dolomite,tan,buff,fragmental,chalky,sublithoghric,dense,pinpoint vugular porosity in parts.no shows, Trace Dolomite,tan,white,finely crystalline,sucrosic,pin point vugular porosity,fractures,fair petroliferous odor,live brown oil stain,stong flowing cut in trichloroethane,oil pay.

#### Resume 10' Samples

3470 -3480 Dolomite,tan,coarsely crystalline porosity,honeycomb porosity, large vugular porosity,very strong petroliferous odor,uniform bright yellow fluorescence,live brown oil stain,strong flowing cut in trichloroethane,oil payzone.

#### Resume 5' Samples

- 3480 3485 Same as above. Dolomite,tan,buff,chalky,sublithographic,dense,no shows.
- 3485 3490 Dolomite,tan,buff,white,chalky,finely crystalline,pinpoint vugular porosity,chalky,dense,noncalcareous,no shows.

#### Resume 10' Samples

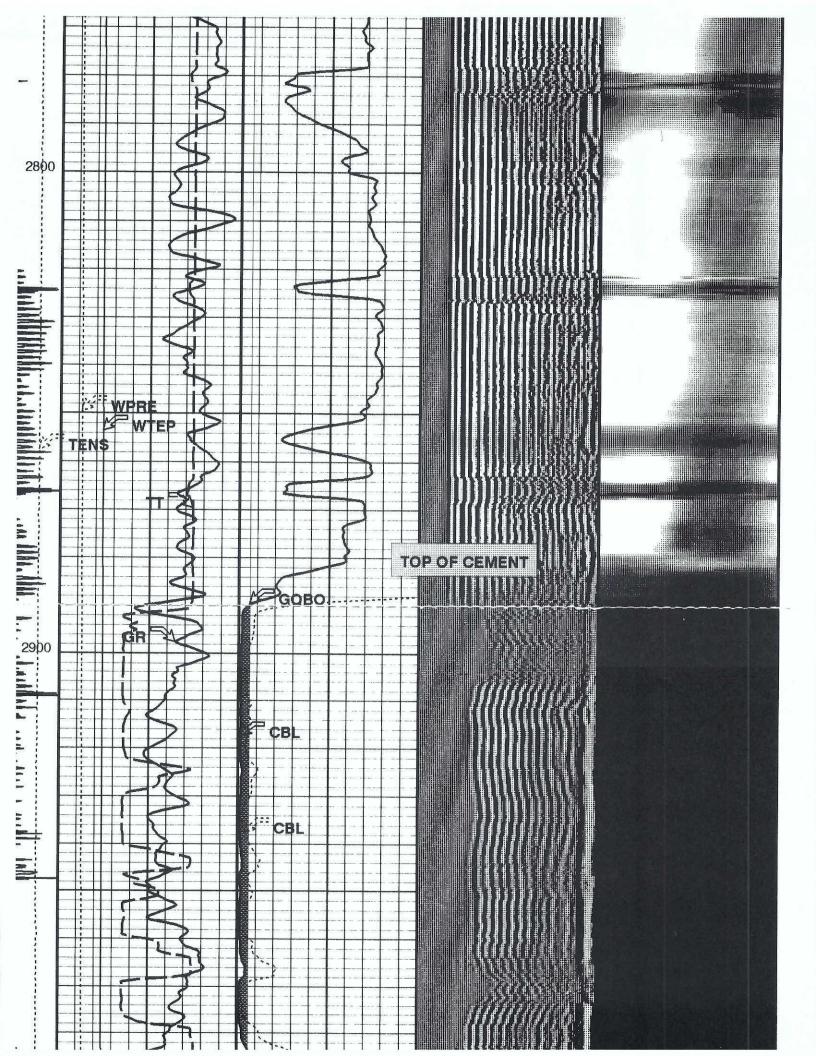
- 3490 3500 Dolomite as above. Shale,dk grey,chunky,firm,dense,noncalcareous, earthy textured.
- 3500 3510 Dolomite,tan,white,chalky,finely microcrystalline,pinpoint vugular Porosity,dense,no shows. Shale as above.
- 3510 3520 Dolomite,tan,buff,medium to coarse crystalline,large pin point Vugular porosity,no shows,no stain,no fluorescence.
- 3520 3530 Dolomite,tan,buff,sublithoghraphic,dense,tight,no shows.Chalky in parts. Traces dolomite as above.

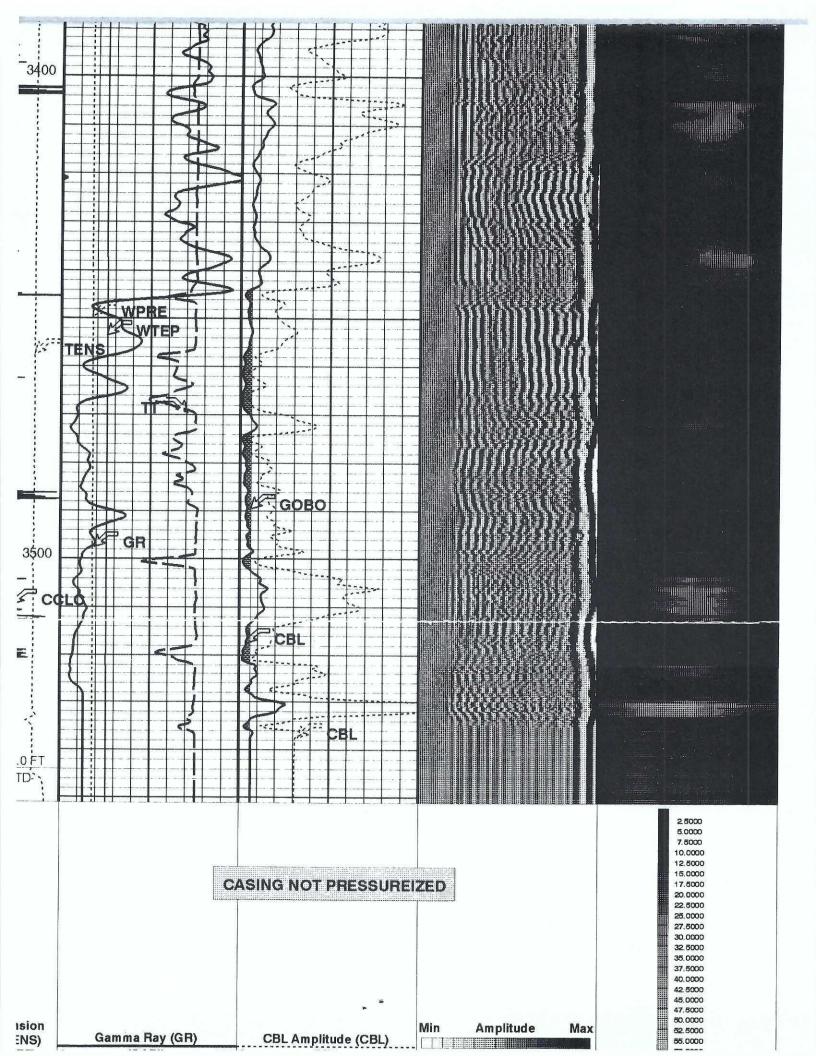
3530 – 3540 Dolomite, white, chalky sublithographic in parts, firm, dense, tight, no shows. Shale dk grey, chunky, dense, noncalcareous, earthy textured

3540 - 3545 same as above.

3545 - Total Depth by Driller 3539 - Total Depth by Logger

			Location	Unit Number			ON.	375 WILLISTON	Location	Unit Number
			Time	Logger On Bottom	-11 -26 -38 / /		14:00	30-Nov-2007	Time	Logger On Bottom
			Temperatures	Maximum Recorded Temperatures				74 degF	Temperatures	Maximum Recorded Temperatures
				То				3545 ft		То
				From				0 ft		From
				Grade						Grade
				Weight				10.5 lbm/ft		Weight
				Casing/Tubing Size				4.500 in		Casing/Tubing Size
				To				3545 ft		То
				From				01		From
				Bit Size				6.250 in		Bit Size
			GSIRING	BIT/CASING/TUBING STRING					NGSTRING	BIT/CASING/TUBING STRING
				Fluid Level				400 ft		Fluid Level
				Density				8.6 lbm/gal		Density
				Salinity						Salinity
				Casing Fluid Type				FRESH WATER		Casing Fluid Type
				lop Log Interval				2678 ft		Top Log Interval
				Bottom Log Interval				3536 ft		Bottom Log Interval
				Schlumberger Depth				3544 €	2	Schlumberger Depth
				Depth Driller				3450 ft		Depth Driller
				Hun Number				ONE		Run Number
				Logging Date				30-Nov-2007		Logging Date
		2700 ft		Expected Cement Top	AAG	28N	4	21824	25-073-21824	F L
					Range	Township	Section	ial No.	API Serial No.	Cour ield oca Vell: Com
				Additives					ď	: tior
				Water Loss			KELLY BUSHING		Drilling Measured From:	า:
				Density	above Perm. Datum	5.0 ft above	KELLY BUSHING	ī	Log Measured From:	OI NI JO AL
				Volume		Elev.: 4070 ft	GROUND LEVEL	L	Permanent Datum:	E N
				- Tail Cement Type	50.5	ŀ				CK IE ( Y F
					4075 ft	ָם חו			450 450	ER 330 IEL
				Additives	4070 ft					r FI
				Water Loss	4075 ft	Elev.: K.B.		_ & 430 FEL	NE NE 330' FNL & 430 FEL	NL : 4-1
				Density		SH.	<b>EMPERA</b>	GR-CCL-PRESSURE-LEMPERALURE	GR-CCL-P	NGS & 4:
				Volume		j l				30
				Casing String No					CBL-VDL	
		Primary		Primary/Squeeze			D LOG	SCM I: CEMENT BOND LOG	SCMT: CE	
			DATA					TOO H	CONT. OF	,
				Maximum Deviation	Ā	MONTANA	State:	D	PONDERA	County:
				Solution GOR			U	I UTING:	CHUCKI	Τ (Φ) (Ω)
			ature	Bubble Point Temperature			,		0000	1
			O)					JODY FIELD 4-1	JODY FIE	<b>√</b> 0
				T B₩						
				-			AS. INC	ALATMONT OIL & GAS. INC	ALATMO	Company:
				Water Salinity	ormaninei.ñei.	OUT THE				
				Oil Density	hondon	Coblin				*
P	Bino	B 5								





#### OPERATIONAL SUMMARY

and

#### GEOLOGICAL WELL HISTORY

Altamont Oil and Gas Inc. Altamont/Jody Field No. 4-1A NENENE Section 4-T28N-R6W (330' FNL – 380'FEL) Glacier County, Montana API No. 25-073-21842

Wildcat

Patrick M. Montalban Petroleum Geologist P.O. Box 488 Cut Bank, Montana 59427

#### Resume

Spud Date:

Completion Date:

Status:

Eleavtion:

Total Depth:

Casing:

Contractor:

Type Rig: Mud Pump: Air Compressor:

Air Program:

Mud Program:

Hole Size: Size Drill Pipe:

Size Drill Collars:

No. Drill Collars:

Sample Intervals:

Sample Quality: Cores:

Drill Stem Tests:

May 18, 2009

May 23, 2009

Madison Sun River Dolomite "Wildcat

Oil Well Discovery"

4070'GR. 4075'KB.

3442' Driller 3462' Driller (Completion) Ran 17 joints 7",17#/ft,ltd,8rd,ST&C,Rge 3

(729.17) set@726.67KB cemented with 160sx Class G cement, 3% Calcium Chloride, 3% Calcium

chloride, 1/2# flocelle.

Ran 85 joints 4 1/2",10.5#/ft,8rd,ST&C,Rge 3 (3442.91') set @3440.91' KB cemented with

60 sx Class G, 2% CaCO3 GaSco Drilling LLC Rig No.7

Atlas Copco RD20 (Tophead Drive) Gardner Denver FXK (6" x 14") Atlas Copco (1250mmcf 350psi)

Surface to 3442'

3442

8 3/4" (0-730') 6 1/4"(730' - 3442 ') 3 1/2" O.D. x 2 1/2" I.D. (13.30 #/ft.) 4 <sup>3</sup>/<sub>4</sub>"O.D. x 2 1/8" I.D.(353') Weight Pipe =

4 ½"O.D. x 2"I.D.(16.60#/ft.)(120')

13 = 354

30'(1950'- 2310')(2560' - 2980')

10'(1700'-1950')(2310'-2560')(2980'-3442')

Good None

None

#### Air Drilling Summary

Drilled 8 3/4" hole with air (mist) from 37' to 730'. Did not show strong flow of water through the drlling of the surface hole. Drilled 6 1/4" hole with air from 730' to 3442'. No gas was encountered. Total depth 3442' by driller with air. Converted to mud drilling program at 3442'.

## Sample Distribution

None Required by the Montana Oil and Gas Conservation Commission, 2535 St. Johns Ave., Billings Montana in accordance with Rule No. 229

Logging Summary
No Logs were run.

# Mud Summary

Max Gel -17sx

Plat Pac UL – 8 - 5gallons

Bit Record

No.	Size	Make	Type	Interval	Footage	Hours	Jet Size	Serial No.
1	8 3/4"	STC	CH-14	0 - 730	730	18.00	open	225925
2	6 1/4"	HTC	STX-20	730-3442	2712	28.00	open	5123271
3	3 7/8"	Varel	DW531	3442-3462	2 20	1.0	reg	1016538

#### Vertical Surveys

<u>Depth</u>	<u>Degrees</u>
251'	1/4*
730'	1/4*
1305'	1/2*
1970'	1/2*
2540'	1/2*
3272'	1/2*

# Sample Formation Tops

Cretaceous	<u>Depth</u>	<u>Datum</u>
Colorado		
Two Medicine		
Blackleaf	1786	+2289
Blackleaf Bentonite Marker	1825	+2250
Blackleaf Sandstone	1830	+2245
Base Fish Scales		
1 <sup>st</sup> Bow Island	1884	+2191
2 <sup>nd</sup> Bow Island	2026	+2049
3 <sup>rd</sup> Bow Island	2134	+1941
4 <sup>th</sup> Bow Island "A"	2367	+1708
4 <sup>th</sup> Bow Island "B"	2413	+1662
Dakota	2539	+1536
Kootenai	2582	+1493
Sunburst	3079	+996
Jurassic		
Morrison	3135	+940
Swift	3208	+867
Rierdon(Ellis Shale)	3331	+744
Sawtooth	3416	+659
Minimize		
Mississippian		
Madison(Sun River Dolomite)		
Total Depth:	3542	+633

#### Daily Activity Summary (Calendar Days)

May 18,2009 Moved in and Rigged up Gasco Drilling LLC Rig No. 7 Spud 8 3/4" hole at 11:00A.M. Drilled 8 3/4" surface hole from 0' to 37'. Drive 9 5/8" casing set @ 16.00' set @ 17'.

Repair upper radiator hose. Nipple up deflector head. Drillled 8 3/4" surface hole with air mist from 37' to 446'.

May 19,2009 Drilled 8 3/4" surface hole with air mist from 446 to 730'.

Total Depth 730' by Driller. Condition hole for surface casing.Ran 17 joints 7",17#/ft,Ltd,8rd,ST&C,(729.79)set @ 728.79'KB cemented with 160 sacks Class G cement + 3% Calcium Chloride,1/2#/sack focelle. Good returns to surface.

Plug down at 2:00 P.M. W.O.C. Nipple up BOP.

May 20,2009 Trip in hole with 6 1/4" bit. Clean and dry hole. Drilled cement plug

and dry hole.Ran survey. Dry hole. Drilled out @ 2:30A.M..

Drilled 6 1/4" hole with air from 730' to 2881'.

May 21,2009 Drilled 6 1/4" hole with air from 2881' to 3442'.

Total depth 3442' by driller.

Total depth by driller with air. Did not encounter any moisture.

Converted to drilling mud @ 7:00A.M.

Condition hole for 4 1/2" production casing. Short trip. Condition

hole for 4 ½" production easing. Trip out of hole for 4 ½"

Production casing. Rig up to run production casing.

May 22, 2009 Ran 85 joints 4 ½",9.5#/ft,API.,J55,8rd,ST&C,Rge 3

(3442.91') set @ 3440.91'. Lower viscosity to 40. Cemented Well with 60 sacks Class G cement with 2% calcium chloride.

Plug down @1:30A.M.. Set 4 1/2" casing in the

Slips.Report Ends.

May 23, 2009 T.D. Nipple up BOP. Pick up 2 3/8" tubing. Tagged plug at 3418'.

Mist up to drill out 4 ½" plug. Drilled 3 7/8" hole with air mist from 3442'to 3460'. Test well, no show of oil or water. Drilled 3 7/8" Hole with air mist from 3460' to 3462'. Shut in for 1 ½ hr. No show, no oil,no water,no odor. Note Driller Total Depth 3468'.

Last 5' run in with no rotation or weight. Rig down.

#### Lithology

Sample descriptions begin at 1700', in the Cretaceous Colorado. Sample descriptions are not corrected for drill time lag. Formation tops were determined from electric logs. Samples were examined and described wet except for the samples in the Mississippian Madison Sun River Dolomite that were described dry.

#### SAMPLES CAUGHT IN 10' INTERVAL:

- 1700 1710 Shale,dk grey,chunky,firm,dense,noncalcareous,earthy textured,gritty in parts.
- 1710 1720 same as above.
- 1720 1730 Shale, grey, chunky, firm, dense, noncalcareous, earthy textured to gritty textured, sandy in parts.
- 1730 1740 Shale,grey,chunky,platy,firm,dense,nncalcareous,earthy textured, micromicaceous. Bentonite,tan,soft,lumpy.
- 1740 1750 same as above. Bentonite, tan, white, soft, lumpy.
- 1750 1760 Shale, grey, chunky, platy, firm, dense, noncalcaroeus, earthy textured, micromicaeous.
- 1760 1770 same as above.
- 1770 1780 Shale, grey, chunky, firm to hard, dense, noncalcareous, earthy textured, microcmicaceous.

#### 1786 - Sample Top - Blackleaf

1780 – 1790 Shale,dk greyish black,chunky,blocky,firm to hard,dense,very calcareous,

#### many tan specks.

1790 - 1800 Shale as above.

1800 - 1810	Shale,dk grey,chunky,blocky,firm to hard,dense,very calcareous,
	earthy textured, many tan specks.

1810 - 1820 same as above.

#### 1825 – Sample Top – Blackleaf Bentonite

1820 – 1830 Shale, dk grey, chunky firm, dense, calcareous, earthy textured.

#### 1830 - Sample Top - Blackleaf Sandstone

- 1830 1840 Shale, grey, chunky, firm, dense, noncalcareous, earthy textured, Bentonite, white, soft, lumpy, micromicaceous.
- 1840 1850 Shale as above.
- 1850 1860 Shale, grey, chunky, firm, dense, noncalcareous, earthy to gritty textured. Siltstone, grey, blocky, hard, dense, noncalcareous, tight.
- 1860 1870 Sandstone, grey, very fine to fine grained, subrounded to subangular, Moderately sorted quartzose, many clear and grey grains,
- 1870 1880 Shale,dk grey,chunky,firm,dense,noncalcareous,earthy textured, many unconsolidated grains in sample pan. Siltstone,grey,blocky,hard, dense,noncalcaeous,tight.

#### 1884 - Sample Top - 1st Bow Island

- 1880 1890 Many unconsolidated grains in sample pan.Sandstone,dk grey,very fine grained,rounded,well sorted quartzose.Bentonite,tan,soft, lumpy.
- 1890 1900 same as above.
- 1900 1910 Siltsone, grey, blocky, hard, dense, noncalcareous, tight

- 1910 1920 Shale, grey, chunky, firm, dense, noncal careous, earthy to gritty textured. Siltsone as above. Unconsolidated grains in sample pan.
- 1920 1930 Bentonite,tan,white,soft,waxy,lumpy,micromicaceous.Shale,dk grey Chunky,hard,dense,noncalcareous,earthy textured.
- 1930 1940 Shale, grey, chunky, firm, dense, noncalcareous, earthy textured.
- 1940 1950 Bentonite,tan,soft,lumpy.Many unconsolidated grains in sample pan.

#### Begin 30' Samples

- 1950 1980 Sandstone, grey, very fine grained, rounded, well sorted quartzose, many clear and grey grains, trace glauconite grains.
- 1980 2010 Bentonite,tan,soft,lumpy.Shale,greenish grey,chunky,firm,dense, noncalcareous,gritty textured.Siltstone,greenish grey,blocky,hard,dense noncalcareous,tight.

#### 2026 - Sample Top - 2<sup>nd</sup> Bow Island

- 2010 2040 Sandstone, grey, very fine to fine grained, rounded to subrounded, well sorted quartzose, many clear grains, few black chert grains, few glauconite grains.
- 2040 2070 Shale, choclate brown, chunky, firm to hard, dense, waxy textured, trace orange zeolites. Bentonite, tan, soft, lumpy
- 2070 2100 Shale,lt green,chunky,firm,dense,noncalcareous,waxy textured. Much Bentonite,tan,soft,lumpy.
- 2100 2130 Sandstone, greenish grey, very fine to medium grained, coarse grained in parts, subrounded to angular, poorly sorted quartzose, many clear grains, trace black chert grains, trace glauconite grains.

## 2134 - Sample Top - 3<sup>rd</sup> Bow Island

2130 – 2160 Sandstone, brownish white, very fine grained, rounded, well sorted quartzose, many clear and grey grains.

- 2160 2190 Shale, black, chunky, firm, dense, noncalcareous, waxy textured.
- 2190 2220 Bentonite,ten,soft,lumpy,micromicaeous, Shale,lt green,chunky, Soft,dense,noncalcareous,waxy textured.
- 2220 2250 Shale,green,grey,chunky,soft to firm,dense,noncalcareous,earthy to waxy many orange zeolites.Textured. Bentonite,tan,soft,lumpy.
- 2250 2280 Bentonite,tan,soft,lumpy. Sandstone,brown,very fine grained,rounded, well sorted quartzose.
- 2280 2310 Shale, grey, chunky, soft to firm, dense, noncalcareous, earthy to gritty Textured. Bentonite, tan, soft, lumpy.

#### Resume 10' Samples

- 2310 2320 Shale,dk grey,chunky,firm,dense,noncalcareous,earthy to gritty textured. Bentonite,tan,soft,lumpy.
- 2320 2330 Bentonite, tan, soft, lumpy. Shale as above.
- 2330 2340 Sandstone,dk grey,very fine grained,well sorted,rounded quartzose many unconsolidated grains in sample pan,many clear and grey grains, trace glauconite grains. Bentonite,tan soft,lumpy. Shale,dk grey,chunky firm,dense noncalcareous,gritty textured.
- 2340 2350 Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
- 2350 2360 same as above.

#### 2367 - Sample Top - 4<sup>th</sup> Bow Island "A" Sandstone

2360 – 2370 Sandstone, grey, very fine to fine, rounded to subrounded, moderately sorted quartzose, noncalcareous, many clear grains, few black chert grains, few glauconite grains.

2370 – 2380	Sandstone, grey, very fine grained, rounded, well sorted quartzose Many clear grains, many grey grain, few glauconite grains.
2380 - 2390	same as above.
2390 – 2400	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured bentonite,tan,soft,lumpy. Many unconsolidated grains in sample pan.
2400 – 2410	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured sandy in parts. Bentonite,tan,soft,lumpy.
2413 – Sampl	e Top – 4 <sup>th</sup> Bow Island "B" Sandstone
2410 – 2420	Sandstone, grey, very fine grained, rounded, well sorted quartzose, many clear and grey grains, few glauconite grains.
2420 – 2430	same as above becoming slightly coarser grained, very bentonitic.
2430 – 2440	Sandstone,dk grey,very fine grained,rounded to subrounded,well sorted quartzose,many grey grains,few glauconite grains,bentonitic.
2440 – 2450	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty to sandy textured. Many unconsolidated grains in sample pan.
2450 – 2460	Shale,grey,chunky,soft to firm,dense,noncalcareous,gritty textured unconsolidated grains in sample pan.
2460 – 2470	same as above. Bentonite,tan,soft,lumpy.
2470 – 2480	Shale,dk grey,grey,chunky,firm,dense,noncalcareous,earthy textured, Bentonitic.
2480 – 2490	Shale,grey,chunky,soft to firm,dense,noncalcareous,earthy textured, Micromicaceous.

2490 - 2500	same as above. Many unconsolidated grains in sample pan.
2500 – 2510	Shale,grey,dk grey,chunky,firm,dense,noncalcareous,earthy to gritty textured. Bentonite,tan,soft,lumpy.
2510 – 2520	Sandstone, grey, very fine grained, rounded, well sorted quartzose Many clear and grey grains, few glauconite grain, bentonitic.
2520 – 2530	Many unconsolidated grains in sample pan. Shale,grey,chunky, firm,dense,noncalcareous,gritty textured. Sandstone as above.
2539 – Sample	e Top - Dakota
2530 – 2540	Shale,grey,chunky,firm,dense,noncalcareous,earthy textured, micromicaceous.Bentonite,tan,soft,lumpy.
2540 – 2550	Sandstone, lt grey, very fine grained, rounded, well sorted quartzose many clear grains few grey grains.
2550 – 2560	Sandstone, clear, very fine grained, rounded to subangular, well sorted Quartzose, many clear grains, few grey chert grains, bentonitic.
Resume 30' S	<u>amples</u>
<u> 2582 – Sampl</u>	e Top - Kootenai
2560 – 2590	Sandstone, brown, very fine to medium grained, rounded to subangular Moderately sorted quartzose, many unconsolidated

grains.Bentonite,tan,soft.

gritty textured.

2590 - 2620 Shale, grey, chunky, firm, dense, noncal careous, earthy to

2620 – 2650	moderately sorted quartzose, many clear grains, many grey shale inclusions many black chert grains.
2650 – 2680	Sandstone, grayish white, very fine to fine grained, rounded to subangular, moderately sorted quartzose, many clear grains, many grey and black grains.
2680 – 2710	Shale, brick red, green, lt green, chunky, soft to firm, dense, noncalcareous, earthy to gritty textured.
2710 – 2740	Sandstone, green, lt green, very fine grained, rounded, well sorted quartzose many unconsolidated grains, many clear grains, orange shale as above. Shale green, chunky, firm, dense, noncalcareous, gritty textured.
2740 – 2770	Shale,grey,chunky,platy,firm,dense,noncalcareous,earthy textured. Bentonite,tan,soft,lumpy.
2770 – 2800	Sandstone, green, lt green, very fine to fine, rounded to subrounded, well sorted quartzose, many clear and frosted grains, many glauconite grains.
2800 – 2830	Shale, green, chunky, firm, dense, noncal careous, earthy textured, smooth. shale, grey, chunky, firm, dense, noncal careous, earthy textured.
2830 – 2860	Shale, brick red, maroon, green, grey, chunky, firm, dense, noncal careous, gritty textured. Bentonite, white, soft waxy.
2860 – 2890	Shale,multicolored,green,brick red,grey,reddish brown,maroon,chunky, soft to firm,dense,noncalcareous,earthy textured.
2890 – 2920	Sandstone, grey, very fine to fine grained, rounded to subangular, moderately Sorted quartzose, many clear grains, many grey grains, many amber grains, Bentonitic.

Bentonitic, tan, soft, lumpy. 2950 - 2980Shale, brick red, chunky, soft to firm, dense, noncalcareous, gritty textured. turns sample bag bick red. Begin 10' Samples Shale, brown, brick red, chunky, firm, dense, noncalcareous, earthy to gritty 2980 - 2990textured. 2990 - 3000Shale, green, chunky, soft to firm, dense, noncalcareous, gritty textured, sandy in parts. Bentonite,tan,soft,lumpy. 3000 - 3010Shale, grey, chunky, platy, soft to firm, dense, noncalcareous, gritty textured. Shale, multicolored, green, grey, brick red, brown, reddish brown, maroon, 3010 - 3020chunky, firm, dense, noncalcareous, earthy textured, motteled in parts. Sandstone, grey, very fine grained, rounded to subrounded, well 3020 - 3030sorted quartzose, many clear grains, many black shale inclusions, trace green grains, trace amber grains. 3030 - 3040Sandstone, grayish white, very fine grained, rounded, well sorted quartzose, many clear grains, trace black and grey shale inclusions, trace amber grains. 3040 - 3050Shale, multicolored, brick red, green, grey, brown, maroon, chunky, soft to firm, dense, motteled, noncalcareous, earthy textured, motteled. 3050 - 3060Shale, brick red, grey, green, chunky, firm, dense, noncal careous, earthy textured, smooth.

Shale, lt. grey, chunky, blocky, firm, dense, noncalcareous, waxy

Sandstone, dk brown, very fine grained, rounded, well sorted quartzose,

2920 - 2950

3060 - 3070

ttextured.

#### 3079 - Sample Top - Sunburst

- 3070 3080 Shale,mustard yellow,grey,chunky,firm,dense,noncalcareous, Earthy to gritty textured. Many unconsolidated grains in sample pan,very fine grained.
- 3080 3090 Sandstone, white, clear, very fine to fine grained, rounded to subrounded, well sorted quartzose, many clear grains, trace amber grains, few grey chert grains.
- 3090 3100 Sandstone, white, clear, very fine to fine grained, rounded to subrouned, well sorted quartzose, many clear grains, few grey chert grains, trace amber grains, bentonitic.
- 3100 3110 Shale,green,lt green,chunky,firm,dense,noncalcareous,earthy textured Smooth. Mostly Bentonte,tan,cream,soft,lumpy.
- 3110 3120 Shale,dk grey,chunky,blocky,firm,dense,nocalcareous,waxy Textured. Bentonite,white,soft,lumpy.
- 3120 3130 Shale,lt.greyish,grey,chunky,firm,dense,noncalcareous,waxy textured. much Bentonite,white,soft,lumpy. Many coarse grained,angular orange grains in sample pan. Many unconsolidated grains in sample pan.

#### 3135 - Sample Top - Morrison

- 3130 3140 Sandstone, white, tan, clear, very fine to fine grained, rounded to subrounded well to moderately sorted quartzose, many clear and frosty grains. few grey grains.
- 3140 3150 Shale, multicolored, brick red, green, lt green, maroon, grey, "baby poop yellow", chunky, soft to firm, dense, noncalcareous, earthy textured.
- 3150 3160 Shale, brick red, reddish brown, trace yellow above, chunky, soft to firm, dense, noncalcareous, earthy textured, Bentoite, white, soft, lumpy.

3160 - 3170	Shale,maroon,greenish grey,grey,chunky,soft to firm,dense, Noncalcareous,earthy to waxy textured.Bentonite,white,soft.
3170 – 3180	Shale,baby poop yellow,chunky,soft,noncalcareous,earthy textured. Shale,grey,lt grey,chunky,soft firm,dense,noncalcareous, earthy textured.
3180 – 3190	Siltstone, brown, chunky, blocky, firm to hard, dense, very calcareous, tight, no shows. Shale, grey, chunky, soft to firm, dense, calcareous, earthy to gritty textured.
3190 – 3200	Shale,dk grey,chunky,soft to firm,dense,noncalcareous,earthy to gritty textured,sandy in parts. Limestone,tan,buff,sublithoghraphic, dense,tight,very calcareous.
3208 – E Log	Top - Swift
3200 - 3210	Sandstone, brown, very fine to fine grained, rounded to subrounded, well sorted, quartzose, many clear and dark grains.
3210 – 3220	Shale,dk grey,chunky,soft to firm,dense,noncalcareous,gritty Textured. Many very fine grains in sample pan.
3220 – 3230	Sandstone, brown, very fine to fine grained, rounded to subangular, well to Moderately sorted quartzose, many clear grains and few grey grains.
3230 – 3240	Sandstone as above. Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
3240 – 3250	Sandstone, brown, very fine to fine grained, rounded, well sorted quartzose many clear grains. Shale dk grey, chunky, soft to firm, dense, noncalcareous gritty textured

3250 - 3260 same as above.

3380 - 3390 Marlstone as above.

3260 – 3270 Sandstone, brown, very fine grained, rounded, well sorted quartzose many clear and grey grains.

3270 – 3280	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
3280 – 3290	Shale,grey,chunky,platy,firm,dense,noncalcareous,earthy to gritty textured.
3290 – 3300	Shale, grey, chunky, platy, firm, dense, noncal careous, earthy textured.
3300 – 3310	Shale,grey,lt grey,chunky,platy,firm,dense,noncalcareous,earthy Textured.
3310 – 3320	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
3320 – 3330	Shale as above. Shale,tan,light brown,blocky,firm,dense,very calcareous, Slightly gritty textured.
<u> 3331 – Sampl</u>	e Top - Rierdon(Ellis Formation)
3331 - Sampl 3330 - 3340	Marlstone,dove grey,chunky,blocky,firm to hard,dense,very calcareous earthy textured,micropyritic. Marlstone,tan,soft,lumpy,very calcareous. Marlstone,white,soft,lumpy,very calcareous.
	Marlstone,dove grey,chunky,blocky,firm to hard,dense,very calcareous earthy textured,micropyritic. Marlstone,tan,soft,lumpy,very calcareous.
3330 – 3340 3340 – 3350	Marlstone,dove grey,chunky,blocky,firm to hard,dense,very calcareous earthy textured,micropyritic. Marlstone,tan,soft,lumpy,very calcareous. Marlstone,white,soft,lumpy,very calcareous.
3330 – 3340 3340 – 3350	Marlstone,dove grey,chunky,blocky,firm to hard,dense,very calcareous earthy textured,micropyritic. Marlstone,tan,soft,lumpy,very calcareous. Marlstone,white,soft,lumpy,very calcareous. same as above.  Marlstone,dove grey,chunky,soft to firm,dense,very

3390 - 3400	Marlstone, dove grey, greenish grey, chunky, firm to hard, dense, very calcareous, micropyritic.earthy textured. Marlstone, white, soft, lumpy,
	very calcareous.

3400 – 3410 Marlstone,dove grey,greenish grey,chunky,firm to hard,dense,very calcareous,earthy textured,micropyritic.

#### 3416 - Sample Top - Sawtooth

- 3410 3420 Siltstone,lt greenish grey,chunky,firm to hard,dense,very calcareous, gritty to sandy textured,micropyitic,sandy in parts.
- 3420 3430 Siltstone,lt grey,chunky,blocky,firm to hard,dense,very calcareous, micropyritic. Much Pyrite.
- 3430 3440 Siltstone,lt grey,grey,chunky,blocky,firm to hard,dense,very calcareous sandy textured,micropyritic. Much pyrite.
- 3440 3442 Sandstone,tan,cream,very fine grained,rounded,well sorted quartzose,calcareous,many unconsolidated grains in sample pan,no shows.

# 3442 - Total Depth by Driller

# Form No. 4 R10/09 LOCATE WELL CORRECTLY

# (SUBMIT IN TRIPLICATE) TO

ARM 36.22.302 ARM 36.22.307 ARM 36.22.1011 ARM 36.22.1013 ARM 36.22.1414

# MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS MONTANA 59102

$\perp$			BIL	LINGS, M	ONTANA	59102					
			CC	MPLET	ION REF	ORT			/		
							API	# 25	073 /	21872	
Company Al	LTAMONT	OIL & G	AS. INC	Le	ase FIEL	D			ell No.	4-1A	
Address PO			,			ld or Area					
	T BANK, N	/IT 5942	7								
Surface Locat				380	ft. from	E Line,	Sec. 4	т	28N	R 6W	
o PON	IDERA		(N/S)		(1	Elevati	on 4.0	—    — 70' GL	4	,075' KB	
County PON							(S	urface)		(KB)	
Date Spud _	5/19/2009 offormation gi	-	Completed			Complete	110	il, gas, cbr	n, injection,	dry hole, etc.)	
THE	normation gr	vennerewi	11 13 a com	piete and	Signed	1	Vilal	11/		2	
						PRESI	DENT &	CEO	Date	6/30/2010	
						ne			 '3-9000		
For Vertical	Well: To	otal depth	3,468	3 / ft.	Plugged k	ack to _		ft.			
For Horizont	tal or Directio	nally Drille	d Well: E	Enter well	bore and b	ottom hole	e location o	data on p	page 2 of	this form.	
	l natural gas										
					Tubing R						
Well Bore		Strii		0-1-	Length	From	To (MD, Foot)	Cement	Cement To	and a property of the	
8-3/4"	Type Surface	Size 7"	Weight 17#/ft	Grade Ltd	(Feet) 17 jts	(MD, Feet)	(MD, Feet) 726.67 ' KB	(Sacks) 160	(MD, Feet 726.67' H	Control of the Contro	
6-1/4"	Production	4-1/2"	10.5#/ft	API	85 jts	726.67' KB	3440.91' K	60	3440.91'	≺B	
		-									
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101											
			Perfo	rated or C	Open-hole	Intervals					
Well Bore	Open Hole/F	Perf'd Zone Bottom	Holes per foot		Size and Type			Open or Isolated (method of isolation)			
4-1/2"	Top Bottom 3,444' 3468'		Driller Open l		lole - 3-7/8"			Open			
		3460'	Logger								
× 0.00											
			cidized, Sh	at Franci	d Saucez	od or Cor	nented				
VAL II D	Inter				1			Max.	Rate	Max. Pressure	
Well Bore	Top Bottom 3444' 3468'		Treatment Type  Driller		Amount and Type of Material 500 Gal 15% HCl			(BBLS/Min) 3.0/min		(PSI) 1300#	
	3444	3460' Logger			555 541 1070 HOI						
				- X							
2											
	-								-+		
	1									100	
Well is produ	cina from		Madis	on/Sun	River Do	lomite		form	ation(s) o	r pool(s).	
	_									1000	
ID SI	harrels o	f oil	MC	F of gas	and	ba	arrels of wa	ater per		hours.	

Initial 10	)-day av	verage pro	oduction	Wai	ting to cor	mplete	3rd	poros	ity		/day	(if take	en)		
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					psi flowing:										
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					Drill Sten	n Tests									
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OTHER DISTRICT	-						$\pm$								
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		Cor	es			1000			Log	gs					
Core #	lr From	nterval To	Recover	у			L	og Type				Fro	Inter m		ō
00.0 #					Gamma R	ay CCL Lo	og					2	2400'		3468'
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## Sample Formation Tops

Cretaceous	<u>Depth</u>	<u>Datum</u>
Colorado		
Two Medicine		
Blackleaf	1786	+2289
Blackleaf Bentonite Marker	1825	+2250
Blackleaf Sandstone	1830	+2245
Base Fish Scales		-
1 <sup>st</sup> Bow Island	1884	+2191
2 <sup>nd</sup> Bow Island	2026	+2049
3 <sup>rd</sup> Bow Island	2134	+1941
4th Bow Island "A"	2367	+1708
4th Bow Island "B"	2413	+1662
Dakota	2539	+1536
Kootenai	2582	+1493
Sunburst	3079	+996
Jurassic		
Morrison	3135	+940
Swift	3208	+867
Rierdon(Ellis Shale)	3331	+744
Sawtooth	3416	+659
Suvitoodi		
Mississippian		
Madison(Sun River Dolomite)		7-
Total Depth:	3542	+633
-	3542	+613/
	/14-	1

#### CHECK SHEET

Date:	11/5/2007 API Number: 073-21824
Company:	AltaMont Oil & Gas Inc.
Well Name:	Jody Field 4-1
County:	Pondera
Field:	Wildcat Pondera
Surf. Location	: 330 FNL 430 FEL NE NE Lot: 1 Sec: 4 Twp: 28 N Rng: 6 W
Permit	Number: 26160 Drilling Fee:
Intentio	on to Drill: 11/5/2007 Expiration Date: 5/5/2008
Minera	l Ownership: ☑ Private ☐ State ☐ Federal ☐ Indian
Well T	ype: Vertical   Multiple Laterals
Propos	sed Depth/Formation: MD: 3450 TVD: Madison
Drilling	Unit Acres Description:
Sample	es Required: Received:
	COMPLETION INFORMATION
Comple	etion Date: November 18, 2007 TD: 3545 PBTD: 3463
	eted As: DI Well IP / Formation: 168 BOD, O MCPD, OBWD
	MAdison
Geolog	gical Well Report: Mud Log:
Sundry	Notices: Int - Abandon 1/7/09
Subsec	quent Report of Abandonment: Received: 7-1-10 Approved: 8-17-10
Electric	100
Lioune	Perforation Log 1 CBL-LBL-VDL-GR-CCL Pressure Temperature Log 1 2-24-09
Miscella	aneous:

LOCATE WELL CORRECTLY

(SUBMIT IN TRIPLICATE)

BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA BILLINGS OR SHELBY

RECEIVED
ARM 36.22.307
ARM 36.22.1011
ARM 36.22.1013

MONTANA BOARD OF OIL & BAS OOMS. BILLINGS

## COMPLETION REPORT

		l						,			
Company _	ALTAMON'	T OI	L & GAS,	INC	Lease	JODY F	TELDS		W	Vell	No. 4-1
ddress_P	O BOX 2	00 -	CUT BAN	IK MT	59427	Field	(or Are	ea) WI	LDCAT		
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rom	to					TIOM			4		
					CASINO	G RECORD		1			
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4-1/2"			API	ST&C			94.41'	3454		ks	Class G Cem
1										+	
					TUBING	G RECORD					
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## RECEIVED

JAN -7 2009

MONTANA BOARD OF ONL & GAS CONS. BILLINGS

## Electric Log Formation Tops

Cretaceous	Depth	Datum
Colorado		
Two Medicine		
Blackleaf	1786	+2289
Blackleaf Bentonite Marker	1825	+2250
Blackleaf Sandstone	1830	+2245
Base Fish Scales		
1 <sup>st</sup> Bow Island	1884	+2191
2 <sup>nd</sup> Bow Island	2026	+2049
3 <sup>rd</sup> Bow Island	2134	+1941
4 <sup>th</sup> Bow Island "A"	2367	+1708
4 <sup>th</sup> Bow Island "B"	2413	+1662
Dakota	2539	+1536
Kootenai	2582	+1493
Sunburst	3079	+996
Jurassic		
Morrison	3135	+940
Swift	3208	+867
Rierdon(Ellis Shale)	3331	+744
Sawtooth	3416	+659
Mississippian		
Madison(Sun River Dolomite)	3445	+630
(Sun raile)	3113	1030
Total Depth:	3539	+536

073-21824

Vancous and the same of the sa								
FORM NO. 22 R7/99	SUBMIT II	N QUADRUPLICATE TO:	ARM ARM	36.22.307 36.22.601	Lease Nam			
MONTANA	ROAPDOE	OIL AND GAS CO			JODY FI		State/Eo	doral):
2535 ST. J	OHNS AVENU	IE, BILLINGS, M	ONTANA 5	UN 1102	PRIVATE		olale/Fe	derai).
		cation for Permit	ONIANA S.	7102	Well Numb			
To:	Drill XX	Deepen	Re-enter		#4-1			
1	Oil XX				Unit Agreer	nent Name	9:	
Operator: ALTA		GAS INC	Other		Field Name	or Wildca	<del>†·</del>	
		GAS, INC			WILDCAT	or maga		
Address PO B					Objective F			
City CUT BANK		MT ZI	P 59427		BOW ISL	AND, SU	NBURS	C & MADISON
Telephone Num	ber 406.873	9000			Section, To			e:
Surface Location	of Well (quarter-q	uarter section and fox	otage measure	ments)	Section County:	4-128N	-KbW	
NENENE-SECT		•			oounty.			
(330' FNL x	430' FEL)	Lot1			PONDERA		D	ECEIVE
		2011					B.	ECETAE
(If directionally drilled, show	halb surface and hallow	Salada di Salada						
Proposed total d		Formation at total of	denth	Elevation	(indicate G	L == I/D\		OCT 1 7 2007
						L or KB)	MONT	ANA BOARD OF
3,450'		MADISON/SUN R			70' GL		& GA	S CONS. BILLIN
Size and descrip	tion of drilling/s	pacing unit   API n	umber of ano	ther well o	on this lease	(if any)	Anticip	ated spud date
40 ACRES	(NE/4) N	ENE						
	U.Z. 17 70						10/	20/2007
Hole size	Casing size	Weight/foot	Grade (API)	Depth		Sacks of Co	oman!	Tunn - 40
8-3/4"	7''	17#/ft	J55	Бери			ement	Type of Cement
			333		650 <b>'</b>	245 sx		Class G
6-1/4"	4-1/2"	9.5#/ft	J55	3	<b>,</b> 450'	100 sx		Class G
Describe Proposed C	nerations:		-					
Altamont Oil Bow Island, casing will i surface. The Open hole lo	& Gas, Inc Sunburst & be cemented e well will gs will be wout equipm	gram of blowout prevent proposes to a Madision forma from surface be drilled wi run from surfa ent will be as vals.	drill this ations. No to approxith air an acceptor TD.	well o DST' imatel d dril	to test is or core y 650' en ling mud	for oil as are passing from cast	and of lanned good ing po	ed. Surface returns to oint to TD.
BOARD USE ON	LY.					1/	11	
pproved(date) No	y 0,5 2007/	Permit Fee \$300	15000	The undersi contained o	igned hereby con this application	ertifies that thon is true and	e informa	ation
y Lew !		Check Number 4060	/11650 5 2008	Signed (Age	Patrick	M. Mont	alban	
CHIEF FIELD	INSPECTOR	Permit Expires	- 2000					
me ————		Permit Number 46	160	Title	Presider	nt & CEC	)	
HIS PERMIT IS SUBJE ONDITIONS OF APPE TATED ON THE BACK	ROVAL	umber 25- <u>673</u> .	21824	Date	10/15/20	007		
	1							
amples Required: Core chips to addre	NONE ss below, full cores	to USGS, Core Labora Montana Boar	FROM lory, Arvada, CO d of Oil and Gas 2525 St. Johns A	. Required s Conservation	feet to samples must b	e washed, o	fried and	_ feet delivered prepaid to:

SUFFLERICITIES INFORMATION	SUPPI	EMENT	TAI II	NFORMATION
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Note: Additional information or attachments may be required by Rule or by special request.

- 1. Attach a survey plat certified by a registered surveyor. The survey plat must show the location of the well with reference to the nearest lines of an established public survey.
- 2. Attach an 81/2 x 11" photocopy of that portion of a topographic map showing the well location, the access route from county or other established roads, residences, and water wells within a 1/2 mile radius of the well.
- 3. Attach a sketch of the well site showing the dimensions and orientation of the site, the size and location of pits, to psoil stockpile, and the estimated cut /fill at the corners and centerstake. (Note: the diagram need not be done by an engineer or surveyor.) Attach a sketch of a top view and two side views of the reserve pit(s), if utilized. The reserve pit sketch must show the length, width, depth, cut and fill, amount of freeboard, area of topsoil stockpile, and the height and width of berms.
- 4. Describe the type and amount of material or liner, if any, to be used to seal the reserve pit. If a synthetic liner is used. indicate the liner thickness (mils), bursting strength, tensile strength, tear strength, puncture resistance, hydrostatic resistance, or attach the manufacturer's specifications. N/A
- 5. Describe the proposed plan for the treatment and/or disposal of reserve pit fluids and solids after the well is drilled. If the operator intends to dispose of or treat the reserve pit contents off-site, specify the location and the method of waste treatment and disposal. (Note: The operator must comply with all applicable federal, state, county, and local laws and regulations with regard to the handling, transportation, treatment, and disposal of solid wastes.)
- 6. Does construction of the access road or location, or some other aspect of the drilling operation require additional federal, state, or local permits or authorizations? If yes, indicate the type of permit or authorization required:

	$X\overline{X}X$	No additional permits needed
		Stream crossing permit (apply through county conservation district)
		Air quality permit (apply through Montana Department of Environmental Quality)
		Water discharge permit (apply through Montana Department of Environmental Quality)
		Water use permit (apply through Montana Department of Natural Resources and Conservation)
		Solid waste disposal permit (apply through Montana Department of Environmental Quality)
		State lands drilling authorization (apply through Montana Department of Natural Resources and Conservation)
		Federal drilling permit (specify agency)
		Other federal, state, county, or local permit or authorization: (specify type)
10	OTICE	S:

#### 1

- 1. Date and time of spudding must be reported to the Board verbally or in writing within 72 hours after the commencement of drilling operations.
- 2. The operator must give notice of drilling operations to the surface owner as required by Section 82-10-503, MCA, before the commencement of any surface activity.

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CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

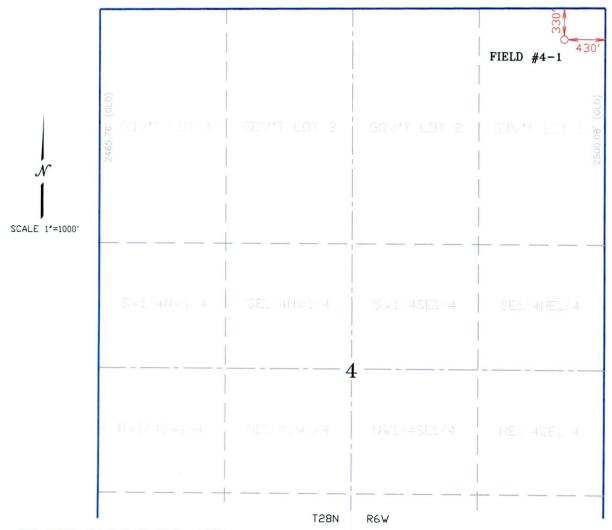
WARNING: Failure to comply with conditions of approval may void this permit.

### WELL LOCATION

OCT 1 7 2007

FIELD #4-1
GOVERNMENT LOT 1 SECTION 4, T28N, R6W, P.M.M.
PONDERA COUNTY, MONTANA
330' FNL X 430' FEL
ELEVATION BEFORE GRADING: 4070'

MONTANA BOARD OF OIL & GAS CONS. BILLINGS



ELEVATION BEFORE GRADING: 4070' BASIS - NAVD 29

GEOGRAPHIC COORDINATES: 48\*13'15.3' N 112\*22'28.4' W (NAD 83 BASIS)

BASE POSITION FOR GEOGRAPHIC COORDINATES: 48°12'38.97587' N 112°22'44.76679' W (NAD 83 BASIS) (NGS CONTROL POINT CONE, THIRD ORDER)

LAND USE: GRASSLAND

NO ATTEMPT HAS BEEN MADE BY THE SURVEYOR TO LOCATE UNDERGROUND STRUCTURES OR BURIED UTILITIES, AND APPROPRIATE AGENCIES AND SURFACE LANDOWNERS MUST BE CONTACTED FOR FIELD LOCATION OF ANY UNDERGROUND STRUCTURES OR BURIED UTILITIES BEFORE ANY CONSTRUCTION COMMENCES.

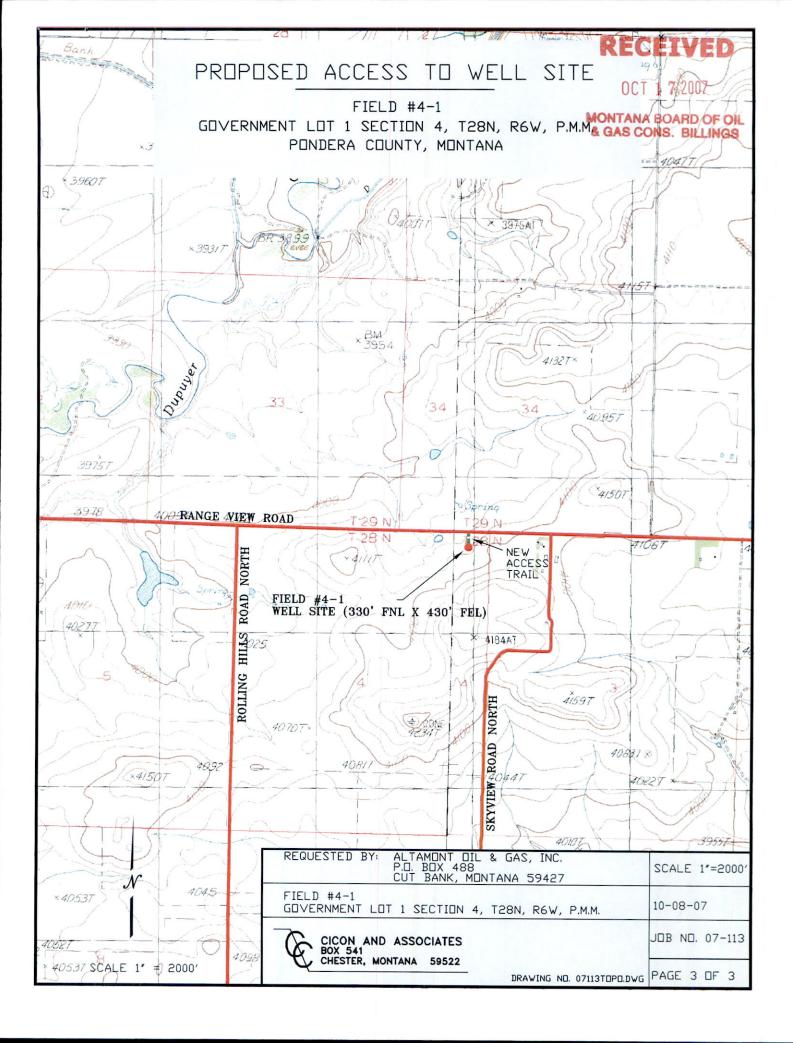
CALL 1-800-424-5555 BEFORE ANY CONSTRUCTION COMMENCES.

NOTE: SUBDIVISION LINES AND GOVERNMENT LOT BOUNDARIES ARE SHOWN FOR DEPICTIVE PURPOSES ONLY AND SHOULD NOT BE USED FOR SCALING OR LOCATION PURPOSES.

ON THE BASIS OF MY KNOWLEDGE, INFORMATION AND BELIEF, I CERTIFY THAT AS A RESULT OF A SURVEY MADE ON THE GROUND TO THE NORMAL STANDARD OF CARE OF PROFESSIONAL LAND SURVEYORS PRACTICING IN THE STATE OF MONTANA, I FIND THE LOCATION OF THE FIELD #4-1 AS SHOWN ON THE SUBJOINED DRAWING.

JOHN M. CICON 4039 LS

REQUESTED BY: ALTAMONT DIL & GAS, INC. P.D. BOX 488 CUT BANK, MONTANA 59427	SCALE 1'=1000'
FIELD #4-1 GOVERNMENT LOT 1 SECTION 4, T28N, R6W, P.M.M.	10-10-07
CICON AND ASSOCIATES BOX 541	JOB NO. 07-113
CHESTER, MONTANA 59522	SHEET 1 DE 3



## RIG PAD SITE

## RECEIVED

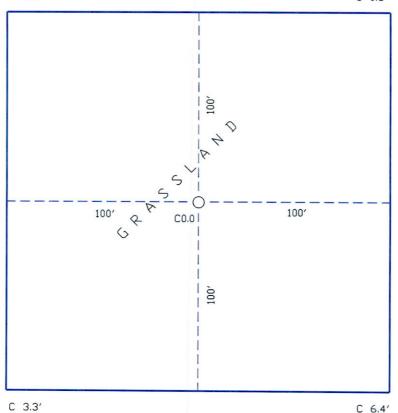
FIELD #4-1
GOVERNMENT LOT 1 SECTION 4, T28N, R6W, P.M.M.
PONDERA COUNTY, MONTANA

OCT 1 7 2007

MONTANA BOARD OF OI & GAS CONS. BILLINGS

F 6.3'

C 0.8'



GENERAL CUTS AND FILLS OF PROPOSED RIG PAD

LAND USE: GRASSLAND

ELEVATION OF LOCATION BEFORE GRADING: 4070' BASIS OF ELEVATIONS: NAVD 29

NOTE:

CUTS AND FILLS NOTED ARE FOR PURPOSES OF DESCRIBING THE GENERAL TOPOGRAPHY OF THE PROPOSED RIG PAD AND ARE NOT INTENDED FOR CALCULATION OF DIRTWORK QUANTITIES OR OTHER CALCULATIONS.



REQUESTED BY: ALTAMONT DIL & GAS, INC. P.D. BOX 488 CUT BANK, MONTANA 59427	SCALE 1'=50'
FIELD #4-1 GOVERNMENT LOT 1 SECTION 4, T28N, R6W, P.M.M.	10-08-07
CICON AND ASSOCIATES	JOB NO. 07-113
CHESTER, MONTANA 59522  DRAWING ND. 07113CDN.DWG	SHEET 2 OF 3

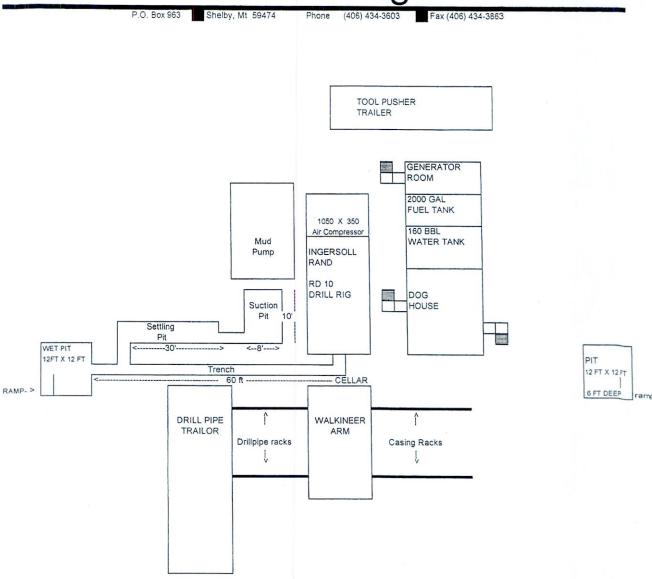


OCT 1 7 2007

## LOCATION LAYOUT

MONTANA BOARD OF OIL & GAS CONS. BILLINGS

# Gasco Drilling LLC

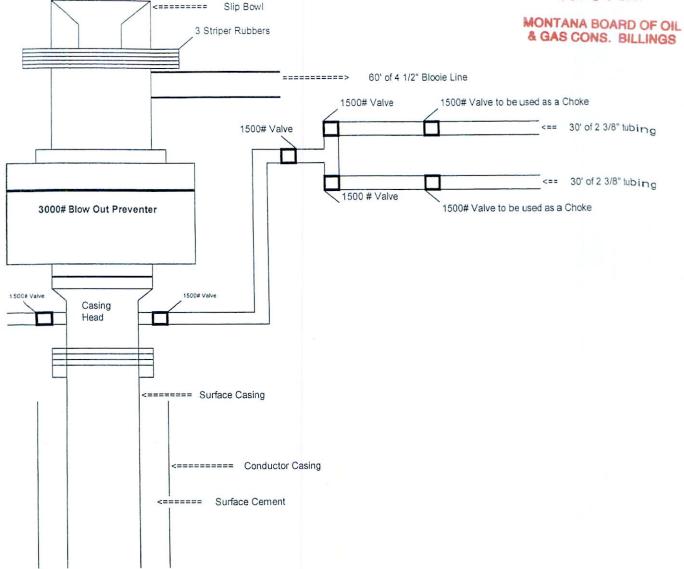


DIMENSIONS OF LOCATION: 200 X 200

SETTLING PIT IS 6' WIDE BY 45' LONG . SUCTION PIT 8' WIDE BY 10' LONG

## RECEIVED

OCT 1 7 2007



BOP STACK

RECEIVED

MAY 2 8 2004

ALTAMONT OIL & GAS, INC

OCT 1 7 2007

MONTANA BOARD OF OIL & GAS CONS. BILLINGS

REGAN OFFSHORE INTERNATIONAL, INC.

Torrance, Calif.

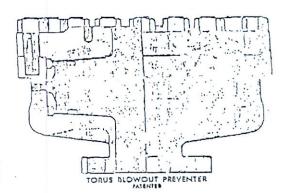
#### REGAN BLOWOUT PREVENTERS

The Regan Torus Blowout Preventer is used primurily on production and workover rigs for well control up to 2000 PSI working pressure

#### DISIGH FLATURIS

- n. The Torus Preventer is designed for mininum height to incillude its use with production and workover rigs.
- b The rubber packer will conform to any object in the well hore. Scaling ability is not affected by minor damage to the inner bore. The packer will Seal on open hale at full working pressure.

The dual packer design increases the reliability of the preventer since the outer rubber is never exposed to the well bore. Under ordinary service, the outer packer is rurely replaced.



 	CIF	ICA	TIC	SHC

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## **B.O.P. SPECIFICATIONS**



FORM NO. 2 R 10/09

Submit In Quadruplicate To:

ARM 36.22.307, 601, 605 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301. 306, 1309, and 141



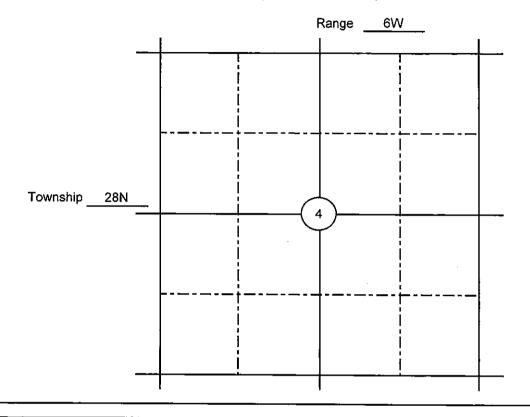
MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE JUL - 1 2010

#### **BILLINGS, MONTANA 59102** INTANA BOARD SUNDRY NOTICES AND REPORT OF WELLS & GAS CONS. BILLINGS Lease Name: Operator ALTAMONT OIL & GAS, INC JODY FIELD Address PO BOX 488 Type (Private/State/Federal/Tribal/Allotted): **PRIVATE** City CUT BANK State MT Zip Code 59427 Well Number: Telephone 406-873-9000 Fax 406-873-2835 4-1 Location of well (1/4-1/4 section and footage measurements): Unit Agreement Name: NENENE (LOT 1) - SECTION 4-T28N-R6W (330' FNL X 430' FEL) Field Name or Wildcat: WILDCAT Township, Range, and Section: SECTION 4 - T28N-R6W API Number: Well Type (oil, gas, injection, other): County: **25** | 073 OIL 21824 **PONDERA** State County Well Indicate below with an X the nature of this notice, report, or other data: Notice of Intention to Change Plans Subsequent Report of Mechanical Integrity Test Notice of Intention to Run Mechanical Integrity Test Subsequent Report of Stimulation or Treatment Notice of Intention to Stimulate or to Chemically Treat Subsequent Report of Perforation or Cementing Notice of Intention to Perforate or to Cement Subsequent Report of Well Abandonment Notice of Intention to Abandon Well Subsequent Report of Pulled or Altered Casing Notice of Intention to Pull or Alter Casing Subsequent Report of Drilling Waste Disposal Subsequent Report of Production Waste Disposal Notice of Intention to Change Well Status Subsequent Report of Change in Well Status Supplemental Well History Other (specify) Subsequent Report of Gas Analysis (ARM 36.22.1222) Describe Proposed or Completed Operations: Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations. Moved in and rigged up service rig and pulled tubing and rods. Tripped tubing into hole and spotted ten sacks of cement at 3325' - 3550'. Pulled 4-1/2" casing at 900' and spotted a 25 sack plug at 990' - 1120' and a 25 sack plug at 850' - 980'. Spotted 20 sacks at bottom of surface 70' - 0'. Cleaned location and rigged down on February 24, 2009. The undersigned hereby certifies that the information contained on this application is true and correct **BOARD USE ONLY** AUG 1 7 2010 6/28/2010 Approved Date Date Signed (Agent) PATRICK M. MONTALBAN, PRESIDENT & CEO CHIEF FIELD INSPECTOR Print Name and Title 406-873-9000 Telephone: Name

#### SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



#### **BOARD USE ONLY**

#### **CONDITIONS OF APPROVAL**

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

ARM 36,22.307, 60 1, 605 1003, 1004, 1011, 1013,1103,1222,1240 1301, 1306, 1309, and JAN - 1417,2009

Submit In Quadruplicate To:

# MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS, MONTANA 59102

MONTANA BOARD OF OIL & GAS OONS. BILLINGS

SUNI	DRY NOTICE	ES A	ND REPO	ORT OF WELLS		_
Operator ALTAMONT OIL & GAS	, INC			Lease Name:		-
Address PO BOX 488				JODY FIELDS		
Address PO BOX 488			<u>.</u>	Lease Type (Private/State/Federal):		-
City CUT BANK State M	T Zip Code	5942	.7	PRIVATE		
Telephone Number (406) 873-558	0 Fax Number (406	6 873	3-2835	Well Number:		-
	,	<u> </u>		#4-1		
Location of well (1/4-1/4 section and fo	otage measuremen	its):		Unit Agreement Name:		_
NENENE (Lot 1) - Section	4-T28N-R6W					
(330' FNL x 430' FEL)				Field Name or Wildcat:		_
ν γ				WILDCAT		
If directionally or horizontally drilled, sho	w both surface and	bottom	hole locations)	Section, Township, and Range:	1	
API Number:	Well Type (oil, gas,	, injectio	on, other):	SECTION 4-T28N-R6W		
25 0 7 3 2 1 8 2 4				County:		_
State County Well	OIL			PONDERA ·		
Indicate below with an X the nature of t	his notice, report, o	or other	data:			_
Notice of Intention to Change plans			Subsequent F	Report of Mechanical Integrity Test		-
Notice of Intention to Run Mechanical I	ntegrity Test		Subsequent F	Report of Stimulation or Chemical Treatment		
Notice of Intention to Stimulate or to Ch	nemically Treat		1	Report of Perforation or Cementing		
Notice of Intention to Perforate or to Ce	ement			Report of Well Abandonment		
Notice of Intention to Abandon Well		XX		Report of Pulled or Altered Casing		
Notice of Intention to Pull or Alter Casir	ng		1	Report of Drilling Waste Disposal		
Notice of Intention to Change Well Stat	us		1	Report of Production Waste Disposal		
Supplemental Well History				Report of Change in Well Status		
Other (specify)			I con	Report of Gas Analysis (ARM 36.22.1222)		
	-					
Describe planned or completed week in	Describe Propo	sed or	Completed O	perations:		
necessary. Indicate the intended starting	detail. Attach maps	s, weii-i d opera	bore configurati	ion diagrams, analyses, or other information as mpletion date for completed operations.		ì
Move in and rig up service	e rig, pull t	ubing	g and rods	Trip tubing into hole and s	spot	
ten sack plug at 3460' - 3	3463'. C	ut of	ff and pu	11 4-1/2" casing @ 2800'. Sr	not	
$^{25}$ sack plug at 2800'. S <sub>I</sub>	pot 25 sack p	lug a	at bottom	of surface (895'). Spot 10 sac	ck	
olug at surface. Clean loc	ation and ri	g dor	wn .			
						- 1

	BOARD U	SE ONLY
Approved	JAN 2 7 2009	
/	Date	
Stew	Sarake	CHIEF FIELD INSPECTOR
	Name	Title

The undersigned hereby cer	ifies that the information contained
on this application is true and	correct:
	(1,11)
12/4/2008	Xet MICE
Date	Signed (Agent)

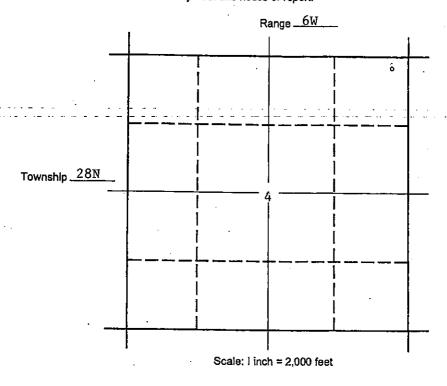
Patrick M. Montalban, President & CEO

Print Name &Title

#### SUPPLEMENTAL INFORMATION

NOTE: Additional Information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



#### **BOARD USE ONLY**

#### **CONDITIONS OF APPROVAL**

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

#### Montana Board of Oil and Gas Conservation Environmental Assessment

Operator: Altamont Oil & Gas, Inc.
Well Name/Number: Jody Field 4-1
Location: NE NE NE, Lot 1 Section 4 T28N R6W
County: Pondera MT; Field (or Wildcat) Wildcat
Air Quality
(possible concerns) Long drilling time: No, 4 to 5 days drilling time.
Unusually deep drilling (high horsepower rig): No. 3450' TD
Possible H2S gas production: Yes
In/near Class I air quality area: No
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required
under 75-2-211.
Mitigation:
X Air quality permit (AQB review)
Gas plants/pipelines available for sour gas
Special equipment/procedures requirements
Other:
Comments: No special concerns – using small rig to drill to 3450' TD.
Water Quality
(possible concerns) Water Quality
Salt/oil based mud: No, freshwater, freshwater mud system, air, air mist.
High water table: No
Surface drainage leads to live water: No, no drainages nearby. Some pothole ponds
nearby.
Water well contamination: No, closest water well is about 1/4 of a mile to the southeast
of this location and is only 90' in depth. Surface casing will be drilled with air and/or
freshwater mud to 650' and steel surface casing set and cemented to surface from 650'.
Closest water well is about
Porous/permeable soils: No, sandy gravelly soils.
Class I stream drainage: No
Mitigation:
Lined reserve pit _X_ Adequate surface casing
Berms/dykes, re-routed drainage
Closed mud system
Off-site disposal of solids/liquids (in approved facility)
Other:
Comments: 650' of surface casing will be set and cemented to surface adequate
to protect freshwater zones. Also, fresh water mud systems or air to be used for drilling
surface hole.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: No, stream crossings.

High erosion potential: No, small cut, up to 6.4' and small fill, up to 6.3', required.  Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.  Unusually large wellsite: No, 200'X200' location size required.  Damage to improvements: No, surface use is cultivated fields.  Conflict with existing land use/values: Slight  Mitigation  Avoid improvements (topographic tolerance)  Exception location requested  X Stockpile topsoil  Stream Crossing Permit (other agency review)  X Reclaim unused part of wellsite if productive  Special construction methods to enhance reclamation  Other  Comments: Access will be over existing county road, Barrett FLDS. A short road will be constructed, about 300' into this location. Drill cuttings will be buried in the unlined cuttings pit. Drilling fluids will be allowed to evaporate in the pits. No special concerns
cuttings pit. Drilling fluids will be allowed to evaporate in the pits. No special concerns
Health Hazards/Noise
(possible concerns) Proximity to public facilities/residences:Closest residence buildings about ¼ of a mile to the east of this location.  Possibility of H2S: Yes Size of rig/length of drilling time: Small drilling rig/short 4 to 5 days drilling time.  Mitigation:X_Proper BOP equipment Topographic sound barriers H2S contingency and/or evacuation plan Special equipment/procedures requirements Other: Comments:No concerns
Wildlife/recreation  (possible concerns)  Proximity to sensitive wildlife areas (DFWP identified): None identified.  Proximity to recreation sites: Lake Frances about 7.5 miles to the northeast.  Creation of new access to wildlife habitat: None identified.  Conflict with game range/refuge management: None identified.  Threatened or endangered Species: None identified.  Mitigation:  Avoidance (topographic tolerance/exception)  Other agency review (DFWP, federal agencies, DSL)  Screening/fencing of pits, drillsite  Other:  Comments: Private surface lands. No concerns

Historical/Cultural/Paleontological

(possible concerns)
Proximity to known sites: None identified, private surface.
Mitigation
avoidance (topographic tolerance, location exception)
X other agency review (SHPO, DSL, federal agencies)
Other:
Comments: Private surface. No concerns.
Social/Economic
(possible concerns)
Substantial effect on tax base
Create demand for new governmental services
Population increase or relocation
Comments: No concerns.
Remarks or Special Concerns for this site
Well is a 3450' Madison Formation test.
Well is a 3430 Madison Formation test.
Summary: Evaluation of Impacts and Cumulative effects
No, significant impacts expected, some short term impacts are expected, but should be
able to mitigate these short term impacts.
I conclude that the approval of the subject Notice of Intent to Drill (does/does not)
constitute a major action of state government significantly affecting the quality of the
human environment, and (does/does not) require the preparation of an environmental
impact statement.
Propored by (BOCC): Steven Seeds:
Prepared by (BOGC): Steven Sasaki (title:) Chief Field Inspector
Date: October 18, 2007
Date. October 10, 2007
Other Persons Contacted:
Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Pondera County water wells
(subject discussed)
October 18, 2007
(date)
If location was inspected before permit approval:
Inspection date:
Inspector:
Others present during inspection:

CONSERVATION
OF THE STATE OF MONTANA NOTICE OF BEFORE THE BOARD OF OIL AND GAS INTENTION TO APPLY FOR PERMIT TO DRILL OIL AND GAS WELL

In the Matter of the application ALTAMONT OIL & GAS, INC

for a Permit to Drill an oil and gas well. Name and address of Applicant: ALTAMONT OIL & GAS, INC

PO Box 488

Cut Bank, Montana 59427

 Legal Description including County and Approximate Footages of Surface Location of Proposed Oil nd Gas Well: ( and projected bottom-hole location, ii directional or horizontal well) NENENE-Section 4-T28N-R6W and Gas Well:

Pondera County, Montana (330' FNL × 430' FEL)

Total Depth Proposed to be Drilled: 3.450

Notice is hereby given that an application for permit

mand an opportunity to be heard by the Montana Board of Oil and Gas Conservation concerning the application. SUCH DEMAND FOR HEARINGS MUST BE RECEIVED BY THE MONTANA BOARD OF OIL AND GAS CONSERVATION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) DAYS AFTER THE DATE OF PUBLICATION OF THIS NOTICE, OR THE APPLICATION WILL BE ACTED UPON BY THE BOARD'S PETROLEUM ENGINEER WITHOUT HEARING. A DEMAND MUST: (1) SET FORTH THE NAME, ADDRESS AND TELE-PHONE NUMBER OF EACH INTERESTED PARTY. to drill an oil and gas well at the surface location set forth above to the depth as stated will be filed with the SURROUNDING THE PROPOSED WELL, AND THE REASONS WHY A HEARING IS SOUGHT; (2) BE SERVED UPON THE APPLICANT BY COPY MAILED OR FAX TRANSMITTED TO THE ADant to Rules 36.22.601 and 36.22.604, Administra-tive Rules of Montana, an interested party may de-Montana Board of Oil and Gas Conservation. Pursu-

Montana Board of Oil and Gas Conservation 2535 St. Johns Avenue DRESS SET FORTH ABOVE.

Illings MT 59102

Office: (406) 656-0040 Fax: (406) 655-6015 October 21, 2007

# AFFIDAVIT OF PUBLICATION STATE OF MONTANA,

County of Lewis & Clark,

MONTANA BOARD OF OIL & GAS CONS. BILLINGS

Beverly Allison

Being duly sworn, deposes and says:

That she is the principal clerk of the Independent Record a newspaper of general circulation published daily in the City of Helena, in the County of Lewis & Clark, State of Montana, and has charge of the advertisement thereof:

That the Oil & Gas - Altamont

a true copy of which is hereto annexed, was published in said newspaper on the following dates: viz .:

October 21, 2007

publication(s) making in all.

Swerly & allison

day of October

Subscribed and sworn to before me this\_

. 2007.

Kremany

NOTARY PUBLIC for the State of Montana My commission expires 8-15-2010 Printed Name: Rose Marie Farr Residing at Helena, Montana

(NOTARIAL SEAL)

STATE OF MONTANA)

County of Pondera) ss.

# Affidavit of Publication

Take H Jep John H Lee
being duly sworn upon his oath says: That he is the Publisher of "The independent-Observer," a weekly new spaper of general circulation, published weekly at Conrad, in the County of Pondera, State of Montana.
That the notice hereunto attached was published in the said "Independent-Observer" once each week for D. D. Successive weeks.
That the first publication of said notice was on the
That the last publication of said notice was on the
That the said notice was published in the regular and entire issue of every said "Independent-Observer" during the period and time of said publication, and in the newspaper proper, and not in a supplement.  Title: Publisher
Sworn to and subscribed before me this  25 day of October 20.97  Nancy Zelenka  Notary Public for the State of Montana, residing at Contact Montana My commission expires  June 1, 2010

#### **LEGAL NOTICE**

BEFORE THE BOARD OF OIL AND GAS CON-SERVATION OF THE STATE OF MONTANA in the Matter of the application of )NOTICE OF )INTENTION TO APPLY

FOR PERMIT TO DRILL ALTAMONT OIL & GAS, INC OIL AND GAS

WELL for a Permit to Drill an oil and gas well.)

1. PO Box 488,

Cut Bank, Montana 59427

2. NENENE-Section 4-T28N-R6W (330' FNL x 430' FEL) Pondera County, Montana

3. Total Proposed Depth: 3,450' Notice is hereby given that an application for permit to drill an oil and gas well at the surface location set forth above to the depth as stated will be filed with the Montana Board of Oll and Gas Conservation. Pursuant to Rules 36.22.601 and 36.22.604, Administrative Rules of Montana, an interested party may demand an opportunity to be heard by the Montana Board of Oil and Gas Conservation concerning the application. SUCH DEMAND FOR HEARING MUST BE RECEIVED BY THE MONTANA BOARD OF OIL AND GAS CONSERVATION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) DAYS AFTER THE DATE OF PUBLICATION OF THIS NOTICE, OR THE APPLICATION WILL BE ACTED UPON BY THE BOARD'S PETROLEUM ENGINEER WITHOUT HEARING. A DEMAND MUST: (1) SET FORTH THE NAME, AD-DRESS AND TELEPHONE NUMBER OF EACH INTERESTED PARTY, THEIR OWNERSHIP INTEREST IN THE LANDS SURROUNDING THE PROPOSED WELL, AND THE REASONS WHY A HEARING IS SOUGHT; (2) BE SERVED UPON THE APPLICANT BY COPY MAILED OR FAX TRANSMITTED TO THE ADDRESS SET FORTH ABOVE.

Montana Board of Oll and Gas Conservation 2535 St. Johns Avenue Billings MT 59102 Office: (406) 658-0040 Fax: (406) 655-6015 Published: October 25, 2007

OCT 2 6 2007

ALTAMONT OIL & GAS, INC

## RECEIVED

NOV 1 3 2007

MONTANA BOARD OF OIL & GAS CONS. BILLINGS

## SPUD INFORMATION

WELL NAME: Jody Field 4-1
API#: 25-073-21824
LOCATION: S 4 T 28N R 6W (Twp-Rge-Sec: 1/4 1/4)
(Twp-Rge-Sec. 74 74)
SPUD TIME: 4:30 pm Actual D
DATE:
DRILLING COMPANY: Gasco
RIG#:5
CALLER'S NAME: Bud Postma
COMPANY NAME: altamont Oil & Gas
OTHER: Bill Halvorson tacked to Bud
Postma & Pat Montalban on 11-7-07
and found out spudded - did not
call in -
Pat Montalban got verbal ok to spud
from Billings

## RECEIVED

## Stimulation and Remedial Cementing Service Report



SERVICE TICKET

# 9132182

	HAM at	0:1+	Com			Well Name	1 + 11	11 )		Job Date	,			
Client Re	presentative	Ulli	045				y Field			Job Type	3/07			
Well D	lata:					Sec. 4	1-1281	V-R6W	/	Aci	3 107 of Sq.z.			
	cription	Size	Weight (lb/ft)	Grade	Max. Press.	Т	rue Measured	Denth (TMD)	Capacity					
Tubing		(in)						Start (ft)		End (ft)	(bbis)	Pi	ackers and Worko Type	Ver Tools
ubing		23/8	6,5			KI	2	3475		Production	n Packer			
										Retrievable	e Packer			
asing		4/2	10.5			KR	5	3475		Cement Re	etainer			
										Bridge Plu	g	11		
erfora	tions/OH					346	66	3474			njection Pack	er		
Formal	tion Data:													
	Name			Туре		Well Ty	ре	Temp (°F)	Pressure (psi)	Height (ft)				
									(pol)	Gross	Net (ml	0) (		
1110	nd Cement													
Ilbore F	1 1/1	Density		sity: (lb/gal)				Temp	: ('F) Water:	Bulk:		lurry:		
Sacks	(bbls)	(lb/gal)		Description		% - A	dditive	% - Additive		% - Additive %		% - Additive		
	25090	1,	15%	HCL										
	ent Report:	Processor	(z-1)		Stage	To 1-1								
	Time	Pressure (	(psi) Annular	Rate (bbls/min)	Stage Volume (bbls)	Total Volume (bbls)	injected in Formation (bbis)			Remarks				
	Time	O LOUIS OF THE REAL PROPERTY.			Volume	Volume	Formation		Location - Tim		1:			
	Time	O LOUIS OF THE REAL PROPERTY.			Volume	Volume	Formation				1:			
	Time	O LOUIS OF THE REAL PROPERTY.			Volume	Volume	Formation		eting Held		d:			
	Time	O LOUIS OF THE REAL PROPERTY.			Volume	Volume	Formation	Safety Me	eting Held		1:			
	Time	O LOUIS OF THE REAL PROPERTY.			Volume	Volume	Formation	Safety Me	reting $\mathcal{H}_e/\emptyset$ Test		d: +4,			
nt 1	Time Ti	ubular			Volume	Volume	Formation	Safety Me	eting <u>Held</u> Test		t <sub>a</sub> ,	nish:		
ersonn	el & Equipm	ubular	Annular	(bbls/min)	Volume	Volume	Formation	Safety Me	eting <u>Held</u> Test	ne Requested	+a,			
ersonna aployee	el & Equipm	nent:	Annular	(bbls/min)	Volume (bbls)	Volume	Formation	Safety Me	eting <u>Held</u> Test	ne Requested	+a,			
ersonna aployee	el & Equipm	ment: Berger	Annular	Rod	Volume (bbls)	Volume (bbis)	Formation	Safety Me	eting <u>Held</u> Test	ne Requested	+G, Fir Bin # M	les Git		
ent 1	el & Equipm	nent: Berger	Annular	Rod 1746 90	Volume (bbls)	Volume (bbis)	Formation	Safety Me	eting <u>Held</u> Test	ne Requested	Fir Bin # M Bin # 20			
ersonna aployee	el & Equipm	ment: Boryer	Annular	Rod	Volume (bbls)	Volume (bbis)	Formation	Safety Me	eting <u>Held</u> Test	ne Requested	# Fir Bin # M Bin # 20 MA	les G2,		

## Stimulation and Cementing Additional Data



SERVICE TICKET

# 9132182

MONTANA BOARD OF OIL

ent	Time	110330	ıre (psi)	Rate	Stage	Total	Injected in	
#		Tubular	Annular	(bbls/min)	Stage Volume (bbls)	Volume (bbls)	Injected in Formation (bbls)	Remarks
					(00.0)	(DDIS)	(DDIS)	
								23/3 tub. 4.7# 4.5 cus. 9.5#
+								Rig in Sunjel
-								The same
1	11:25	10			1	10	10	T:12 1 1 A
1	1:37	10			1	10	10	F. II hole fresh water
	1:45	10			-/-	6 13.4	16	Fill hole fresh water Pump acid down tubing Displace acid to perfs.
- 1"	. 15	10			_/	13.4	29,4	Displace acid to poets
-								/ / / / /
-								Pin out all ide
								Rig out pull 18 joints
								Set Packer
13	7;36	500			2			
10	120	300			1.3	1.5	1.5	fress, we annulus
_								Riess, up annulus Rig into tabing
								The Tabing
10	2:40	1000			1.5	8	8	D: :1 :1 0
						4)	0	Pimp acid into formation
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						1.76		

## Schlumberger

Schlum orger Technology Corporation 300 S \_\_\_\_\_nberger Drive, Sugar Land, TX 77478

## Sales Order

Islas Order	Sales Order Data	Floid Service Order	Service Date 12/01/2007	Terms	Net P	ayable upo	n Receipt
1663986	12/31/2007	11911690			MALL	ayable upo	
Bill To:			Correspondence Addre	<b>5</b> 2:			
MOUNTAIN V PO Box 200 CUT BANK, N	IEW ENERGY, INC		Chinook Dep Dacey McMa Schlumberge CHINOOK, M	nus r REW Hv		t	
			Tax Registration Numb	er: 22-169	2661		
Customer PO	Customer A	FE	Contract		•		
0		0	St. (4		0		
Vell Name & Number	FIELD JODY 4-1		Field	С	FOCKER	SP	
Vall Location			Offshore Zone/Block				
A CONTRACTOR OF THE CONTRACTOR	4-28N-6W		Swie		Price	Reference	
County/Parlah/Borough	Pondera		MT			L3-US L	and Sept 2008
Customer Job Representati	ve .		Customer Office Represent	stive			
	PATRICK MONTALB	AN	Que	entity UC	OM Unit P	rice	Amount
Material	Description			,			
811101053 6XFLATCHL 6XSERCHGD	<b>SET-8 - ND S</b> Service Flat C Service Depth		3,5			1.96 0.16	990.00 1,250.00
Gross Price Discount/Surcha	,	o, a, g					2,240.00
Total							1,000.00
61050801 6XDEPCHG 6XOPECHG 6XGRDEPH-1 6XGROPE-1 6XOPECHMAP	Depth Charge Operation Cha GR in Combo	arga Depth Charge (descent=1) Ope Charge (descent = 1)	3,5 8 3,5 8	88.00 44.00 88.00	FT FT	0.24 0.28 0.07 0.07 0.36	3,189.80 900.00 956.88 233.82 1,180.44
Gross Price Discount/Surcha Total	arge						1,750.00
61HW338PJ3406F 6XDEPCHG 6XCARLEN 6XELECDET 6XSHOTCHG Gross Price Discount/Surch	Depth Charge Perforating Ca Perforating El Charge Per S	arrier Length Charge ectric Detonation	3,5	4.00 1.00	EA 4	0.07 0.30 3.57 88.39	1,169.52 896.00 194.00 4,420.00 8,679.52 -5,179.51
Total							1,500.01
61110300 6XBLUMAST		rane and Mast Charges - Blue Streak Mast		1.00 1.00 D	AY 35	0.00	350.00
Gross Price Total							350.00 350.00
61110200PR 6XPRES0-1	PO-RSR Pac Flat Charge p	k Off and Riser er Day, P<1KPsi	corsiles	1.00 1.00 D	AY 41	5.00	830.0
Gross Price Discount/Surch	arge		ECENED				-415.00 418.00
Total		JA	N 07 2000				,
			WHEN CHERCY !	CP.			

## Sales Order

Sales Order	Sales Order Date	Fleid Service Order	Service Date	Terms		_
1663986	12/31/2007	11911690	12/01/2007		Net Payable upor	
Material	Description		Quan	ity UON	Unit Price	Amoun
61110200MC 6XWHCON	WHE-MISC M	lisc Pressure Related Ch. Wellhead Connection/Trip	91900	00 00 EA	272.50	545.00
Gross Price Discount/Surc						545.00 -272.50
Total						272.50
61110500CR		v Miscellaneous Charges	906	.00 00 ME		6,350.4
6XMILECH Gross Price Discount/Surc	Mileage Charg	dea	-			6,350.43 -6,350.43
Total	<b>J</b>					0.00
61110500CR 6XMILECH	CREW - Crew Mileage Char	v Miscellaneous Charges ges	1 252	.00 .00 ME	c (5)	858,8
Gross Price Discount/Surc	harge					856.86 -856.86
Total	-					0.00
61110105F 6XFS3		uel SurCharge 18 #2 Diesel \$2,50-3.00 3%		.00 .00 EA	212.49	212.4
Gross Price	(.					212.49
Total						212.45
Service total	before tax			-		5,500.00 5,500.00

RECEIVED 8005 TO MAL MOUNTAINVIEW ENERGY LTD

A) Inc. 200, 505 - 2nd Street, SW Calgary, Alberta, Canada T2P 1N8

Telephone: (403) 269-1420

JUN 1 6 2009



## SERVICE TICKET 9139027

This service ticket is not an invoice; pricing is subject to review and change without notice.

A	the ment all B Co		Well Name	41-1			Job Date	T	
Address	to ment Oil & Go	->	Location				Service Point	June O	7
5	5x 482		Sec 2/ Client Representa	108 V	1 R	66	C LCIN Pricing Area	State	
			Job Type	Nonta	160	n			211
City	91	ostal/Zip Code	2			V	AFE/PO#		
Cut	Book MT S	9427	Aciel	ľ	215	Ponde	- en		1
District	Service, Equipment 8	& Material Type	e	11	ode	Quantity	Unit Price	Amoun	nt
	Travel Charge							PETME	1 500
	Service Charge						D # 650		1.0
	AS Per Bio	1					JU	L - 6 2009	
							MONTAN	A BOARD O	F OM
42	Soniel Pumping	Chang	e			lea	3888	ONS BILLI	Nae
1	Sanjel Pumping includes Trave, 500;	sal Acial,	)					9000	
	delivery & Pumpi	ins							
	0	10							
		-							
10	0								
46	Standby Time			139	2	min lh-	45076	N/C	
AV	Standby Time	Pump	unit	1390		34.	285 /1.		
1		, , , , , , , , , , , , , , , , , , ,				12- 1/2	24. 0285	570	00
	4								
_		1 3		1427		FIE	LD ESTIMATE	4370	00
h	Hemal Fills	1 74	□ Cementing	g - Prim.	×	Cementing - Re	m.		
		+ - 1	□ Coiled Tub	oing		Nitrogen			
1	Hemes / Delde 9	1-1-1	□ Stimulatio	n		Fracturing			
	3 A 5 5		□ МРСТИ			Other			
т	his space is reserved for the Client Coding S	tamn	RI FIETE	5	Sales 1	Sales :	2	/	
			1	100	111	7 This signature confirms	that have read and comply wi	ith the terms and conditio	ens as noted
JX.	aller Jus! Exall	and Har-y	1 Veg C	soul -	1031	on the reverse of this of	locument.	)	
-			<i>'</i>		7	x Mia	MALEL	n '	

# Stimulation and Remedial Cementing Service Report



#### SERVICE TICKET

# 9/39027

Client Name		1:/ *	Ges			Well Name	6 4	-10		J	ob Date	) J.	ne o	9
Client Benresentative	_									J	ob Type	1	1	-
	Joc 1	nonta	bon			Location Sec 4	To	3n R	6 W		1.6.6	ACIO	Spor	eze
Well Data:	Size	Weight		May	Press.	True	Massured	Depth (TMD)	Cap	acity		Packers ar	nd Workover To	ols
Description	(in)	(lb/ft)	Grade		si)	Start		End (ft)		bls)		Туре		TMD (ft)
Tubing	23/2	41.7	5.55			0		343	3	Pr	oduct	tion Pack	er	
										Re	etrieva	able Pack	er	2940
Casing	4/2					0		344	2	Ce	ement	Retainer		
	1								,	Br	ridge	Plug		
Perforations/OH	6/4					344	7	3460	,	Se	electiv	e Injectio	n Packer	
	Q:-7						2	0 766				•		
Formation Data:														
Name			Туре			Well Type		Temp	Pressure		Heigh		Permeability	
4.4			Type		+	203 11		(°F)	(psi)	Gr	oss	Net	(mD)	(%)
Modison						011								
Fluid and Cement		D						Т	- ('E) Wet			Bulk:	Clum	
Wellbore Fluid: Type			nsity: (lb/ga			10,7700 (10,000)			p: (°F) Wate	er:		T-07-15-02	Slurry	
# Sacks (bbls)			Description	on		% - Ad	lditive	% -	Additive		% - A	dditive	% -	Additive
12	8.4	157	e HCI			115 941	41-	1 2901	ASA.	3 150	2/	0-2	26#	154-1
+														
Fluid Compatibilit										W -		3 <b>.</b>		
	ty Testing*:	(%	HCI Equ	ıivale	ent)		C	Compatibility	/ Tests:	b -				
cid Titration:		(%		uivale ail:	ent)	N/A		Compatibility		V -	Ti	ime at BH	T:	m
cid Titration:	F		F			N/A N/A	□ <b>r</b>			1979	Ti s: 🗆	me at BH	T:	19725
cid Titration: tability: on Control (Live	F Acid): F	Pass:	F	ail: ail:			□ N	lesh Size: _ ive Acid:		Pas	s: 🗆	me at BH F	ail:	N/A
cid Titration: stability: ron Control (Live	F Acid): F ime: L	Pass:  Pa	F n	ail: ail: nin.			□ N	lesh Size: _		Pas		me at BH F	ail:	N/A
acid Titration: stability: ron Control (Live mulsion Break T	Acid): Fime: L	Pass:	F n	ail: ail: nin.			. N	lesh Size: _ ive Acid: pent Acid:		Pas	s: 🗆	me at BH F	ail:	mi N/A N/A
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cid Titration: tability: on Control (Live mulsion Break T Testing Witnesse (Oil Company Re Treatment Report	Acid): F ime: L S ed by: presentatit: Pressure	Pass:  Pa	F F m	ail: ail: nin. nin.	Gtage	N/A Total Volume	Injected Formatic	lesh Size: _ ive Acid: pent Acid: ignature:		Pas	s: 🗆	me at BH F	ail:	N/A
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tability: con Control (Live mulsion Break Total Company Retreatment Report Treatment Time Time Total Control Company Retreatment Report Time Time Total Contro	Acid): Fime: L Sed by: epresentatit: Pressure Tubular	Pass:  Pa	F F m	ail: ail: nin. nin.	Gtage	N/A Total Volume	Injected Formatic	lesh Size: _ ive Acid: spent Acid: signature:  Arrive c Safety I	n Locatio Meeting	Pas Pas on - Time	s:  Rem	ime at BH F F arks ested:	ail: 🗆	N/A
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cid Titration: tability: on Control (Live mulsion Break Ti  Testing Witnesse (Oil Company Re Treatment Report Event Time  1 0206 2 1115 3 1140 4 1000 5 1144 6 1180 7 1236 1	Acid): Fime: L Sed by: presentatit: Pressure Tubular  1750 350 350	Pass:  Pa	Rate (bbls/mir	ail: ail: nin. nin.	Stage olume bbls)	Total Volume (bbls)	S Injected Formatic (bbls)	Arrive of Safety I Pressur	on Location Meeting The Test  Fin #  HCI  HCI  HCI	Passon - Time	Rem	arks ested:	ail:   ail:	N/A N/A
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<sup>\*</sup> Detailed protocols for Sanjel's compatibility tests are available on request.

## ALTAMONT OIL & GAS, INC

PO BOX488

CUT BANK, MONTANA 59427

#### FACSIMILE TRANSMITTAL SHEET FROM: TO: Carla Barringer Steve Sasaki DATE COMPANY: TUESDAY, FEBRUARY 17, 2009 Board of Oil & Gas Conservation TOTAL NO. OF PAGES INCLUDING FAX NUMBER: COVER: 2 (406) 655-6015 SENDER'S PHONE NUMBER: PHONE NUMBER: (406) 873-5580 Re: Schlumberger Ticket YOUR REFERENCE NUMBER:

(406) 873-2835

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY☐ PLEASE RECYCLE

NOTES/COMMENTS:

Perforating of Jody Fields #4-1

Hello Steve:

Following is the ticket from Schlumberger for the Jody Fields #4-1. Maybe you can tell that they perforated and what the interval was?

Thank you,

ALTAMONT OIL & GAS, INC

Carla Barringer

Date	-23-0	(406)652-4400	COMPL	FTITIO		069 Niehenke Ilings, Monta		
INVOICE #	1320	ELEASE/LOCATION	Jady	Field	#4-1			
STATE _	Mon	tona coun	TY Ponc	era	LEGAL	NEN	F 4-2	8N-6W
		2 KB ELEVATION 40						
COMPETIT	ION PERSONN	EL 5 Seifert	JBO	on A	Braiss	) /	/ / / -	ist Bank M
		nont Oil 86			(77	5 1/1		y CISICE!
					BY ( G	telel	Alt	
ADDRESS	Competitio	n Wireline Services is requeste	ed to perform the foll	owing services a	according to the terr	ms printed on	the reverse of this	order.
3(50		ITEM		AMOUNT		INF	ORMATION	
(5)		/ICE CHARGE: Tru			Casing	17#	From	To 9341
	e Loggin	ng unit@	per mile		4.5"	9.54	Surface	3545
	Pickur Mast/o	/ICE CHARGE:	per mile per mile					
22	600 \$	+ Plugist CIBP			Fluid /1007/85	٠		
Depth Oper.		463'1	7		0		evel (surf) are from (check	One).
in in	602 P	in operation a	CIBP		кв			Prev. Logs
Service 🛶		rtorate W3/81	IP Stick		CWS TD	R	Driller TD _	3545
Depth Oper.		shors			Plug model Pla	ughtle s	Size 350 "	Depth 34631
-		~Brasel 4			Packer	8	Size	Depth
Service						PER	FORATIONS	
Depth Oper.					3446 - 3	45/3	(4) 4	PF Total #
					2716 3	100		11
Service Depth								
Oper.								
Service								
Depth		RECEIV	/ED					
Oper.		EED @ 00	100					
Service		FEB <b>6</b> 20			TOTAL PERF	ORATIONS:	17 titan	19gram
Depth		MONTANA BOARI & GAS CONS. BY	LLINGS		AFE #:		Pro	peoto
Oper.					APIA25	-073-	21824	
Service					Remarks:			
Depth								
Oper.	EQU	IPMENT, RENTALS, PERS	ONNEL			and the same of th	/	/
				1.		fut (	enellhin	100
4600	Pasche	Charge for Control / fox	-113F			111	101	1
1316	11653416		btotal			t Hame	A Jed	tid 4-1
		C.	14		>		7	0 1
	- 1	MATERIALS dis	xount Z	2	8	4	1/2 Dod	A flat
		5	Istoial			011	1 /2	4/6/7/14/
4518	Miles	= 80 miles	*		7	Let	rate P3	40-5450
(215	1-113	5 Charge 3 field	total		5		()	
			1		<i></i>			
		Sub tota	al			01.	m ./ 1	
		Other TOTAL (	CHARGES	,	Witnessed by: 🔏	Storm	rentalk	id
		Sales Ta	ax		- Simpoundin VVO		(Please Print)	
		TOTAL	CHARGES .					

Date 2-Jan-2008 (406)652-4400 7069 Niehenke Ave. Billings, Montana 59101 #4-1 JOBY FIELD INVOICE #12145 LEASE/LOCATION \_ COUNTY PONSERA LEGAL NE.NE 4-28N-6W STATE MONTANA ELEVATION 10 70' KB ELEVATION 4075" \_\_\_ DRILLER TD 35159 FIELD COMPETITION PERSONNEL J.B. CONNEL J. BROWN S. SEIFERT / A. BROWN ALTAMENT DIL & GAS. ADDRESS Competition Wireline Services is requested to perform the following services according to the terms printed on the reverse of this order. THUCKEN ITEM INFORMATION Casing Lb/Ft 4501 SERVICE CHARGE: TRUCK From To 17 Surrac SERVICE CHARGE: 9.5# 3545 SURPACE Logging unit \_ per mile Pickup @ per mile Mast/crane @per mile Service ALSD FERFERAIE W/ Fluid allwaren Level (surf). Depth 3474 1 Competition measurements are from (check One): Oper. Prev. Logs X 645 CWS TD 3574 Driller TD 3545 Service Depth Plug model \_ Size Depth Oper. Packer Size \_\_\_ Depth **PERFORATIONS** Service Depth Intervals SPF Total # Oper. 3470-3474 Service Depth Oper. Service Depth Oper. TITAN TOTAL PERFORATIONS: 17 Service prospector" Depth AFE #: AF.I : Oper. 25-073-Remarks: Service Depth Oper EQUIPMENT, RENTALS, PERSONNEL 4592 PRESSUR CONTROL LUBRICATER MITTE Discourt SUBTOMO **MATERIALS** 4518 EHES chy 4504 MILEAGE: tak. 80 FIELD TOTAL

> Sub total Other TOTAL CHARGES Sales Tax

TOTAL CHARGES

Witnessed by: PATRICK MONTHL BAN

Original - Please pay from this invoice - Due 30 days from above date.

Date 12-	-5-07 (406)652-4400 COMP	DET ITION	7069 Niehenke Billings, Monta		
INVOICE # 1	12132 LEASE/LOCATION				
STATE	Mostana county Por		NEN		2
ELEVATION_	4070 KB ELEVATION 4075 DR	RILLER TO 3450 FIELD	Wilde	at /	/
COMPETITIO	ON PERSONNEL 5 Scifert, A	Brown	UNI	T# 1115 Cc	+Bank
COMPANY _	111 1 21 2606	ВУ	Delier	sale.	1
		J			
ADDRESS _	Competition Wireline Services is requested to perform the	following services according to the		the reverse of this or	der.
4500	SERVICE CHARGE: Truck	Casing	Lb/Ft	From	То
		7"	17#	Suffece	
	SERVICE CHARGE:	_4,5	9.5#	Surface	3545
	Mast/craneper mile				
	533 CCL 10g to locate partidose	Fluid W	ter/oil	Level (surf)	IR
Depth Oper.	2800 - porational		measurements	s are from (check C	One):
45	592 Prossusc Control Rick off		3 X		Prev. Logs
Service		CWS TD _	IVI	Driller TD	3450
Depth Oper.		Plug model	-	Size	Depth
Орсі.		Packer	11	Size	Depth
Service			PE	RFORATIONS	
Depth Oper		In	tervals	SP	F Total #
Ореі.					
Service					
Depth					
Oper.					
Service		1			
Depth Oper	Int. Complet 52. Cost	Tu			
Орол.	14 15 (	# TOTAL B	EREORATION		
Service	Alternall Field	4-1 TOTAL P	ERFORATIONS	5:	
Depth Oper	10000	AFE #:	26 - () 7	3-218:	241
Ореі.	Frad losing feels	Remarks:			
Service	1000	Run	CCLIA	when to 28	00'
Depth Oper	1050	logi	spto su	erface	
оры	EQUIPMENT, RENTALS, PERSONNEL	Pick	up cas	ing log	1500 tose
	Subtotal			F(2,5	
	discount <	Pick	up cash	g to 23"	og 1500 to se
	subtotal			3	<u> </u>
	MATERIALS			RECE	IVED
4518	Eti & S Charge			DEC 1	0 2007
4504	Mileage 90mle mi			DEU I	<b>Z</b> 2007
	TICIDION			& GAS CONS	DARD OF OIL B. BILLINGS
	Sub total	·	01-	1 11 11	4
	Other TOTAL CHARGES	Witnessed t	by: tatrice	buck Se	fact
	Sales Tax	Competition	VVO(CA!	(Please Print)	
Original Plan	TOTAL CHARGES				

# LIQUID GOLD WELL SERVICE, INC.

**Cement Work Order** Phone 406-873-2966

Rev. 4-07

Fax 406-87	73-2997	MAR - 6 20	109	C	ut Bank, MT 59427
		MONTANA BOAR	D OF OIL	Invoice #	2347
. /	111 - L	& GAS CONS. B	ILLINGS	2100	9
Company/	Hamon			Date	2011- (1)
Address City/State					28/ Rng. 6W
Lease	Fild Well #4-1		<del></del>	Field Wilder	
/			P&A X		
Long String _	Surface Pipe	25 023	PAAA	Camera	
	AFF	15-010-	41824		
Hole Size	Casing 4½"	Plug #1	3450	to 3325	Sacs /Os
	Casing	The second secon			
Tubing 23				to	The same of the sa
TD 3463 PE				to	Sacs
ECP	Casing	Plug #5_		to	Sacs
Comments:		Cia LO	lake,	on water	- CII by
10) if h	25 /1- 24171	10 gx	ment a.	24 121 4	- U. Harrish
cellana	have displace	count wi	FL 125	He water	· wash
up av					
V					
Quantity	Desc	cription			
01	Cement Pump Truck				
40	Pump Truck Mileage				
01	Bulk Cement Truck				
40	Bulk Truck Mileage				
10-X	Bulk Cement				
	Cellophane				
	Polymer				
30#	CaCl				
01	Pick Up Charge ( 4)	5			
01	water truck X C	e his			
nl	0 1 1 1	7 (101 .11	17/		
01	fuel sucharge 6	6 PT, WI,	Dr)		
	Cementer				
	71 Mah 13	Lh Low	ad		
/	Agent of Owner or Contractor	, run	a V 4		
	gom or omit or oomit dottor				

Date

# LIQUID GOLD WELL SERVICE, INC.

Cement Work C Phone 406-873-		R	ECEIA	ED		P.O. Box 757
Fax 406-873-299	97		MAR - 6 20	09		Cut Bank, MT 59427
1	1	MON	ITANA BOARD			c.w.o.# 2657
Company/_	(tarion)	8.0	AS CONS. BI	LLINGS	Date //	19-09
Address					Sec.	_ Twn Rng
City/State		#111			County	Hacra
Lease Food	5	Well #4-1	7,100	1777	Field Wi	KI Cat
Long String	Surface Pipe	P&AAPI	15 110	0/3-	dibd	
Perfs #1	Casing 4/2 X	6/4 Plug #1	13980	2 to	\$ 850	Sacs25_5X
Perfs #2	Casing 4/2"	Plug #2	1120	_ to	10	Sacs <u>25 5X</u>
Tubing	Casing	Plug #3	10	to	0	Sacs
TD	Casing	Plug #4		_ to		Sacs
ECP	Casing	Plug #5	. 1	_ to		Sacs
Comments:	rate to loca	tiph fig	49.139	lahe	ON WO	day trado
Tip and	Pull casing	at 1/10 Can	leint get	CIPZUIO	DOWN L	PALCOSING. B.
Try to 1	part piul	tom To	(a-19)	carnes	FIOC TI	bught to potter
70011	mper son ca	two Dulled	145 ila	Crows	1/1000	trip coping out
DE NOICE	and faura ou	convent to	and of	holes	DILLAD	200x concat
Con 1100	Charles DO Lo	O wash	10000	d Dia	James	SO A CO CO
4001-1 31	AS SERVED IN TO	of women	in Corr		)	
Quantity		Description			Unit	Total
0/	Cement Pump Truck					
40	Pump Truck Mileage					
01	Bulk Cement Truck					
40	Bulk Truck Mileage	2,29 las				
70	Bulk Cement					
	Cellophane					
- 41	Polymer					
141#	CaCl	a -1				
OL	Pick Up Charge X4(	Inites				
01	fuel suscha	c 29				
01	The mila	150 010				
1 1 1	M 18	11/-1	13-11		Deta	*
Todal	Molenda, Bul Cementer	tch, Comod,	, B:11		_ Date	*

Agent of Owner or Contractor

# LIQUID GOLD WELL SERVICE, INC. RECEIVED

Cement Work Order Phone 406-873-2966

Rev. 5-06

P.O. Box 757

Fax 406-87	73-2997	D	EC 1 2 2007		Cut B	ank, MT 59427
				Inv	oice # 17	43
Company A	Altomony oil +6as, in	& GAS	NA BOARD OF OI CONS. BILLINGS	Date_//		
Address	,					N Rng. 6W
City/State					Endera	
	Well Jody Feild	4-	/	Field		
Long String _	1 /		P&A	Ca	mera	
35.111				1:401	om Phy	com -
Hole Size	Casing 7" X 83/4	Plug #1	896.91'	to O	1	Sacs /80 s
Drill Pipe				to		Sacs
Tubing	Casing			to		Sacs
TD 897 PE		Plug #4_		to		Sacs
ECP	Casing	Plug #5_		to		Sacs
Comments:	More to. Rig D. Purs	501	36/2 poly	nor ah	and. 1	Pup
190 5	x 310(all 1/2 + (al).	Drop	Plus Dis	place w	135,1	1365
Shut	in. Wish of. Any do	ur.		THE PROPERTY.		
	1	1				
	7.5 Bbls Betuen	5-	)			
		/				
Quantity	Description			Unit	Disc.	Total
01	Cement Pump Truck					
50	Pump Truck Mileage					
01	Bulk Cement Truck					
50	Bulk Truck Mileage					
190	Bulk Cement	/ /				
90#	Calophane	-1/-	A TA			
5901	Polymer		4 77			
50	Pick Up Charge	7	1 1/1			
500 #	(00)		1			
	a flore	171	c) 1/			
15%	fire / Sevelege on pump	1 8 Bu	14			
			6			
	Cementer		1			
	d	1	1	1	2	
	mare our Bill	1 101	nn	Date_//	7-07	
	Agent of Owner or Contractor					

Date\_

## LIQUID GOLD WELL SERVICE, INC.

Cement Wo Phone 406-8			,	1 - 2 - 2
	373-2997	RECEIVED	(	P.O. Box 757 Out Bank, MT 59427
	1	DEC 1 0 2007		1952
_	111 10 +	DEC 1 2 2007	Invoice #	1306
Company	Mallon	MONTANA BOARD OF OIL	Date // -18 -	07
Address		& GAS CONS. BILLINGS	Sec. 4 Twn.	281 Rng. (66)
City/State_ Lease Jody	F- 11 W. 11 /1		County ponde	sa
,			Field wild c	at
Long String	XSurface Pipe	P&A	Camera	
		API	25-073-2	1819
Hole Size(	64 Casing 42	3546	casing 00 1/1	,
Drill Pipe	Casing	Plug #1 354/6	to <u>2814</u>	Sacs (CO) SX
Tubing	Casing	Plug #2		_ Sacs
TD3545 P	BTD Casing	Plug #3 Plug #4	_ to	
ECP	Casing	Plug #4 Plug #5	_ to	_ Sacs
Comments:		/	to	_ Sacs
Comments:	1 range to location	take on	water, pu	mp, 10bbs
will	57 8 H	op ICX 3X C	event, c	15 Place
1293	in up and rice	lows the	Dr (e) Ci	00
	113	1	1 1	
		that 19 moles	700 touts	14
-		Altomost 1	Sol Field	2/-/
Quantity	Description	on	Unit Disc	Total
01	Cement Pump Truck			
35	Pump Truck Mileage / 35	miles		
01	Bulk Cement Truck			
35	Bulk Truck Mileage X 35 m	Ales 1		
1003X	Bulk Cement			
25#	Cellophane	Closest 41/2"		
201	Polymor Float shee	14577		
05	4/2 Centralizers	137		
a tt	Pick Up Charge 135 miles			
950#	Nacl (salt)			
950"	Mica	21 31		
	tuel 3 archestac 15% (	PTODT)		
	Cementer			
	1000 Plojufor So	hn, Bill	Date_//-/8 ~	27
	Agent of Owner or Contractor	<del></del>		
	Da IVIIIVI			

## DRILLSTEM TESTS

DST#1:		mite). O flow peri	ITS during initia	un River Dolo- al shut-in, final i @ rate of 9-5 i.
		Preflow: Initial shi Final flow Final shu	₩:	15 min. 33 min. 60 min. 95 min.
PRESSURES:	First Period		3,402' Top	3,429' Boltom
		IHP IFP FFP SIP	1635.3 107.2 111.5 1061.8	1648.2 723.6 455.4 1075.0
	Second Period	IFP FFP FSI FHP	151.9 297.6 1063.6 1606.1	440.5 730.7 1075.9 1617.6
RECOVERY:			id - 950' - 60' 90' of gas cut (	of ammonia cut
<u>DST #2</u> :		mite). G 21-34 MC flow per	TS in 6 min. F. CFD. Oil to suri	iun River Dolo- lowed @ rate of face during final rtially unloaded
		Preflow: Initial sh Final flo Final shu	w:	60 min. 60 min. 132 min. 45 min.
PRESSURES:	First Period		3,4021 Top	3,4291 Bottom
		ihp ifp ffp sip	1673.7 75.0 270.1 1061.8	1694.6 101.2 276.2 1078.2
	Second Period	ifp ffp fsi fhp	318.6 241.1 1061.0 1673.7	343.9 262.4 1074.7 1694.6
RECOVERY:			id - 1,010' - 89 nd 120' of gas	20' of highly gas out water.

## CORE DATA

One core was cut in Mississippian Madison (Sun River dolomite) from 3,430-35\*. There was no recovery. Penetration rate for the core was 1 to 5 minutes/ft.

#### DAILY ACTIVITY SUMMARY

#### (Calendar Days)

3/8/82	Moved in and rigged up General Well Service Rig #21. Drilled rat hole.
3/9/82	Spudded at 1:30 a.m. Drilled 12-1/4" surface hole to 180'. Set 8-5/8" surface easing with 175 sx. cement plus 3% CaCl at 113'.
3/10/82	Nippling up. Tested BOP's to 900#. Held for 15 minutes. Rigged up air equipment.
3/11/82	Blew hole dry and drilled with air to 415'. Changed over to mud and

3/12/82 Drilled 747-1,373'. Had tight hole at 778'.

water and drilled to 747'.

- 3/13/82 Drilled 1,373-1,780'. Tripped for new bit at 1,560'.
- 3/14/82 Drilled 1,780-2,003'. Tripped for new bit at 1,928'.
- 3/15/82 Drilled 2,003-104'.
- 3/16/82 Drilled 2,104-360'.
- 3/17/82 Drilled 2,360-782'.
- 3/18/82 Drilled 2,782-968'.
- 3/19/82 Drilled 2,968-3,065'. Tripped for new bit at 3,009'. Tight hole.
- 3/20/82 Drilled 3,065-254'.
- 3/21/82 Drilled 3,254-419'.
- 3/22/82 Drilled to 3,433'. Conditioned mud. Made short trip to pull out for DST #1.
- 3/23/82 Completed DST #1. Tripped in and conditioned hole for Core #1. Cut core and tripped out.
- 3/24/82 Tripped out with Core #1. Tripped in for DST #2.
- 3/25/82 Ran DST #2. Tripped in. Drilled to 3,482' and conditioned hole.
- 3/26/82 Tripped out to run Schlumberger logs.
- 3/27/82 Set 5-1/2" casing at 3,480". Tagged plug with 2-7/8" tubing at 3,455".
- 3/28/82 Rig was released at 10:00 a.m.

## LITHOLOGY

Sample descriptions begin at 170' in Cretaceous Montana Group beds. Drilling time lag was used to adjust lithology. Formation tops were determined from electrical logs. Samples were examined both wet and dry and described wet. For lithology descriptions, see the enclosed lithologic log.

$\prod$	MAX	' S	TEST	ING	618910	TITA			
	DOI 816	(4	CVT BA	ME - MONTANA 3743)	A Ta	16/3			Canada
USTOMER	Occiden	tal Expl	loration &	Product	Con Co. MAY 1	82 DATE 2	5-03-82	2	9 6
ELL NO.	#1-34 F	ield		K	BELV. 4045 E / 1	F TICKET # FORMATION TYPE OF	863 DS	T. Two	* 15
ELL LOCAT	TION Sec.	34-T29N-	-R6W	G	ELV. 4035 CONS	FORMATION	Madis	n	
NTERVAL 3	3420-343	5	T.D. 3435	ft N	ETYPAY _ STATE OF MO	TYPE OF	TEST Bott	om Hole	8
DUNTY PO	ondera			S	TATE Montana	NO.			
		825			63502 175	226	F. 25 (10)		
ECORDE	ER DATA	Al	LL MEASUREME	NTS ARE IMP	ERIAL	TIME DATA	CCO	NVENTIC	INAL
60	REC.		10981		10982		58 to	09:58	HR.
60	DEPTH		3402		- 3431		58 to		HR.
132	CLOCK		21132		21134	SF fr. 10:			
\$ 45	BLANKED OFF		No		Yes	FS fr. 13:	10 to	13:55	HR.
		PSI		PSI					1
. Init. I		1670.2	1673.7	1692.1	1694.6				HR.
First	Flow	75.9	75.0	102.9	101.2	TIME ON BTM	08:4		HR.
	Flow	273.6	270.1		276.2	TIME OPEN	08:5		HR.
In Shu	t-in	1065.3	1061.8	1081.6	1078.2	TIME PULLED			HR.
Init.		321.3	318.6	351.6	343.9	TIME OUT	17:3	0	HR.
. Final		247.2	241.1	265.8	262.4	HUD DATA			
Fi Shu		1065.3	1061.0	10/3.0	1074.7		C-1		1
Final	HYG.				1694.6 Computed_	MUD TYPE MUD WEIGHT	Gel 9.3		- 1
		F1810	Computed	F1610	Computed_	VISCOSITY	75		
	DV					WATER LOSS	5.4		1
COVE			E0E (* 1- D C	50	5 ft in D.P.				
OTAL FLU			cut with			MUD DROP	2/32		
			ter unloa			nub DRUF	_		
	ft of Gas			urns.		SAMPLER DA	TA		i
	ft of _	001 110				SURFACE PRESSURE			
-						CUBIC FT. GAS			
UID	RE	SISTIVI	TY TE	MP C1.	CONTENT		1050		
D PIT		2.4		52	2900	C. C. Mud	300		- 1
D PIT F	ILTRATE	1.9	5	52	3700	TOTAL C.C. LIGUI			
COVERED	WATER		_	-	_	GRAVITY & 60'f	33.4		1
COVERED	מטא (		-	_	_	GAS/DIL RATIO	90.7		·
COVERED	MUD FILTRATE		_	-	_		220		5
						GENERAL DA			Popular No.
EMARK						SURFACE CHOKE		2-1/4	30
			th strong bl			BTM. CHOKE	. 75		
			Turned to 2			HOLE SIZE	Nil		Int No
					ce-1 1/2 lbs	AMT.OF FILL	Nil		3
		g at 3 lbs	(24.0 MCF)	then decre	asing to	BTM.H.TEMP	77		- 1
2 1/2	Pounds.					PORDSITY I HOLE COND	Good	0	1
	T 00	50 has				CUSHION AMT	Nil		
10500	Tool at 09	.DB hrs.				CUSHION TYPE	Nil		1
lannad	Too! at 10	50 kps ui	ith strong b	ou-turned	to 1/4 inch	BACK PRESS. VAL			3
			Peaked at			TESTER	DeKa	ye	3
					ud and Oil to	WITNESS	Warn		
	ice at 12.2					CONTRACTOR			11 Serv
						RIG #	#21	co/26	

TEST SUCCESSFUL

Closed Tool at 13.10 hrs.

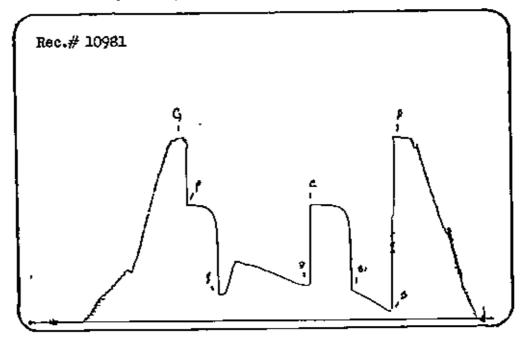
Pulled off bottom at 13.55 hrs.

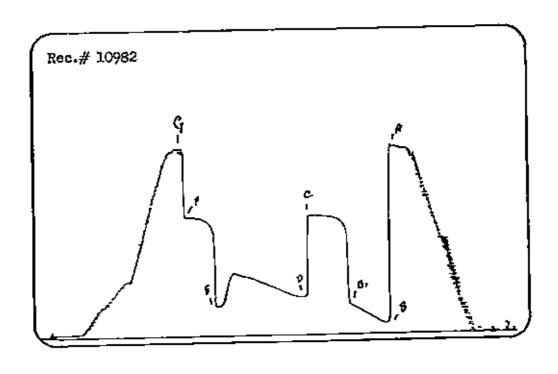
NAME: Field #1-34 DATE: 25-03-82

LOCATION: Sec.34-T29N-R6W TK#: 863 DST#: Two

TIME	CHOKE SIZE in.	SURFACE PRESSURE 16s.		FIGNID	REMARKS
09:04					Gas to surface.
00:00 09:14	1/4	2 1/2	23.0	None	Increasing slightly.
00:00 09:24	1/4	2 1/2	23.0	M '	An abava
00:00	277	2 1/2	23.0	NOTE	As above.
09:34	1/4	3	24.0	None	Peaked.
00:00					
09:44	1/4	2 1/2	23.0	None	Holding steady.
00:00 09:54	1/4	2 1/2	23.0	None	As above
00:00	• • •		20.0		NO GROVE
09:58					Elosed tool
00:00					
10:58 00:00					Seen tool
11:08	1/4	2 1/2	23.0	None	Starting to surge.
00:00					
11:18	1/4	2.0	22.0	None	As above
00:00 11:28	1/4	i	21.0	None	As above
00:00	• • •	•	44.14	1.011.6	H3 8464E
11:38	1/4	5 1/2	27.0	None	Sursing at moderate rate.
00:00	4.4	6.449	20.4	N	
11:48	1/4	6 1/2	29.0	None	As above
11:58	1/4	7 1/2	30.0	None	Sursins between 7 1/2 & 1
00:00					
12:0B	1/4	1	21.0	None	As above
00:00 12:1B	1/4	1/2			
00:00	27 4	172			
12:25					Mud & Oil to surface-took out
00:00 00:00					chakes unloading hole-very highly
00:00					sas cut.
13:10					Closed tool
00:00					
13:55					Pulled off bottom.

Field # 1-34 Sec.34-T29N-R6W T.# 863 DST.# 2





NAME: Field #1-34 DATE: 25-03-82 LOCATION: Sec.34-T29N-R6W TK#: 863 DST#: Two O.D. I.D. LENGTH DEPTH INCHES INCHES FEET FEET Drill Pire 3.50 2.76 2881.00 Reverse sab 5.75 2.50 1.00 Water Cushion Value Drill Collars 2.50 2.25 505.00 Double Pin 6.00 2.25 .90 Sampler 5.00 .75 81.00 3395.00 Shut-in Tool Hydraulic Valve 5.00 .75 5.00 3400.00 BY Case 5.00 2.69 5.00 3402.00 216 5.00 1.00 5.00 Safety Joint 4.75 2.69 1.75 Equalization Adapter PACKER ASSEMBLY XL 1 6.75 1.50 3420.00 8.56 PACKER ASSEMBLY 2 Equalization Pipe Perforated Anchar 5.00 2.50 10.00 Adapter Blanted off BT Gause PACKER ASSEMBLY 3 PACKER ASSEMBLY 4 Perforated Anchor Side Wall Anchor

5.00

0.00

4.23

3431.00

3435,00

Drill Collars Drill Pipe

T.D.

Blanked Off BT Case

#2

46 4970

K-E SEMI-LOGARITHMIC +2 CYCLES X 10 DIVISIONS
KEUPFEL & ESSEN CO. MARIN 11

WELL NAME & LOCATION :FIELD #1-34 SEC.34-T29N-R6W

EST'D RECOVERY DAMAGE REMOVED-- 264.43 BBL/DAY

10 =	TICKET# RECORDE : 60	863 DŠŤi R #: 10982 £	THO 17 3431	.00 FT.		Т =	: 192	:		
TIME	AL SHUT 10+211 217	-IN PSIG	KPA	PSIG^2	*	FIN	IAL SHUT ZXT TZX	_IN _T PS1	is KP	PSIG^2 10^B
0 6284 0	11.003 0035 0073 15.0073 0073 0073 0073 0073 0073 0073 0073	276.2 943.2 1016.3 1043.0 1058.3 1067.0 1070.4 1074.5 1076.3	1904 8503 7007 7191 7286 7356 7360 7409 7422 7427 7433	.076 .890 1.033 1.088 1.120 1.138 1.146 1.155 1.161	***	0621840625 1233445	33.00 17.00 17.67 9.00 7.40 6.33 5.57	262 938 1016 1042 1058 1058 1072 1073	4 180 645 700 1 718 3 729 2 735 1 739 9 740	9 .069 .880 7 1.033 5 1.086 6 1.120 1 1.137 1 1.149 4 1.153
					DAT	A				
	את מב	, INCREMENTO			LMI 1 T	AL :	H0114		FINAL SH	UT-1N
	NO OF SLOPE D EXTRAPO	, INCREMENTS— POINTS EXTRA F EXTRAPOLAT LATED PRESSI	POLATED ED LINE JRE		1092.	48 00	PSI		1096.0	3 1 0 PSI
F	RESERVOI	R PROPERTIES	3							
	INTERVA RESEVOI TOTAL F FINALFL GROUND RECORDE POROSIT D.C. RE D.P. RE	L	ξΕ 		262. 40 34 5	15 77 90 31 05 65	FEET FIN. PSI FT. FT. CFT. OF	GAS CUT GAS CUT	OIL BIL	
CA	ALCULAT I	ON RESULTS								
DAMAG	GE RATIO	≠ 5,	. 45	*#	IM	PER	IAL			
011	RECOVE TRANSMI AVERAGE INSITU RADIUS POTENTI PRODUCT TEST PR	RY SSIBILITY PERMABILITY CAPACITY OF INVESTIGA OMETRIC SURA IVITY INDEX- ODUCTION OIA	/ ATION ACE		165. 111. 165. 46. 1926.	42   03   45   02   66   652	1D-FT/CF 1D 1D-FT -T- 3BL/DAY- 3BL/DAY	-PSI		

COMPUTATIONS BY RHYASON CONSULTANTS PH: 265-6788

## PHONES: .873-4211 Cur Bank - 873-2528 Havro 265-4402 Mobile 873-4702

BEFORE WORK IS COMMENCED THIS ORDER MUST BE SIGNED

1 M

## MONTANA ÖİL WELL CEMENTERS, INC. RADIO DISPATCHED UNITS

P.O. Box 226, Cut Bank, Montane 59427 (406) 873-4211 & Havre: (406) 265-4402

## **ACIDIZING WORK ORDER & INVOICE**

Bemil to P.O. Box 226, Cut Bank, Montana 59427

12 376

HFE " 282-304-1223
District C.B. Date 4-29.82 P.O. No. Treatment Log. No. 265
District Ortion Onto alarm Tart
Company Oxy Petrology Tick Mail Invoice To 1999 17et 1st Denver Place
( )
Address Denver Coto 80202  Lease & Well No. Field 1-34 Job Started 800 DRM Job Completed 1000 DRM
Lease & Well No. Field 1-34 Job Started Completed 25 Johnston Comp
County Portlers State AsT Field W & Section 34 Township 29 Range 6 W
Type of Well: Workover   Exploratory   Development  Other: (write in)
Treatment No Zone _M_ticl. So.d Rotary & Cable Tool Air
Color Date Color C
Casing: New X Used Size 5/2 Weight 17 Depth 3480 Type
Perforations: From 3424 - 3428
Treated Perls.: From 3428 to 327
Tubing or Drill Pipe: Size 278 Weight 6.5 Total Depth 3317
Packer Briker Full Bore Retriable Packers Setal 3377
Previous Treatment None
Reg. Acid—Gais. 1000 411 15 50 He L
Truck 17 4 Mileage HO Transport Magage May 750 782 79
Treater 7. F. V. Driver(s) F. R. C. C. C. C. C. C. C. C. C. C. C. C. C.
Additives In h. b. to e 100°
NON- ENINESION
I Ron Sequestering
TERMS: Cosh at time of sale—Net 30 days to approved credit accounts. After 30 days accounts will be charged 1%% per month service charge on unpaid balance. If necessary to resert to logal action to collect any account such account will be charged with all collection
CONDITIONS, WARRANTY AND RESPONSIBILITY: It is expressly understood and agreed that the above described and agreed the agreement of the agreement agreement and agreement agreemen
ble avriacely understood that Montana Oil You Companies and accessory
antipment of part thereof, whether resuming from the negligeness of more
ployees. The entire warranty or guarantee and responsibility, either expressed or implied, by Montana Oil Well Cementers, Inc. is expressed above The entire warranty or guarantee and responsibility or employed directly or Indirectly by Montana Oil Well Cementers, Inc. has authority to and no agent, dealer or representative, connected the expression or guarantees and responsibilities expressed herein.
and no agent, dealer or representative, connected with or employee parameters and responsibilities expressed herein.
I have read, understand and accept the total contractor, that the above material has been used; that the basis for charges are correctly
to sign this order as agent of the ownst or contractor.  stated; and that I am authorized to sign this memorandum as agent of owner or contractor.

Oxy Parculau

Owner or Contractor

7.0					
Phones: 6873-4211	MONTANA	A OIL WEL	L CEMENTE	RS, INC. NO	30000
873-2628			Bank, Montana 59427	142	<b>:</b>
265-4402 Mobile: 873-4702			R & INVOICE		
/ / /	BEFORE WORK I	S COMMENCE	D THIS ORDER N	MUST BE SIGNED	
Dinter Cut BAL	15 Date	.367182°	der No	Req. No	
COMPONIA PE	tedfum				··········
Contractor O-ELIEBA	al WEIJ SER	sie€ Riq*	<u> </u>		
Lease and Well No. FiE.	1년 1-3년		Job	Stated DO (F) x	so comel: 40 PM
	ERA, MOUY.	Field	w <u>c</u>	Section 34 Two	Hangs
Mell Invoice To OX Y	Peyro,				,,,, <del></del>
Address 183 VIEW	1 / 3 SE . 24	09 Caspe	e kyo		
Type of Well:	Workeyer, 🗆	Explor	ratory, 🗆	Davelopment, A	Other 🗆
Type of Job: Sur.,	Inter,	Prod.	Squeeze 🗆	Pumping 🗀	P&AC
₽, 0, □	Other (Write In)				(4++++++++++++++++++++++++++++++++++++
\.	Uæd □	She 5/2"	Weight 17.15	, Oepth 3487	Туре
Hole Data: Bors Size:	ייסור ד	Depth 34/85	Rotary di	Cable Tool	
Tubing Or Drill Pipa: Size	•				,
Cementing Packer: Size				Depth Set .	
Type Floot Equipment:	المرا أمسم برمارا	DIR! FIL	1 CollAR, 11		7 CEUT
Type more equipment.			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<b>-1</b> ′	friin in last in the state of t
		No. Sacks		231415	10 1/10 No Sacks
P & A Data: Plug No. 1 From	7-		Plug No. 5 → Fron		
,			Plug No. 6 - Fron	A'N 60	n 1982 📆
Plug No. 3 — From			Plug No. 7 — Fron	ion to	
Plug No. 3 — From			Plug No. 8 — Fron	Con City William	LOS MONTAL
_				C. C.	michen S
Others		Wt. Per Gel	Sarks	Type	MEDRICO DE
Coment Date: Bulk 40	SOCKED L. MINEU				
	out hile CEM	ENT 72	SX CLASS C	3' 145 PR3	<u> </u>
Admix 130sx M	out Lite CEM	ent 72	<u>osx Class (</u>		teed
Plugs & Heads: Top Plug .	out hite CEM 5/2" Type R.	SWER; BOTTON	PSX CIASS C	Туре Тур	to Head
Pluge & Heads: Top Plug . Pressure: Circulating	Mini	SWER; BOTTON	Paug	ТуреТур	oe Heed
Plugs & Heads: Top Plug .	Mini	SOUTH 72	Paug	Type Typ	Heed
Pluge & Heads: Top Plug Pressure: Circulating Displacement Detail Displacement Remarks: To you	pood with BB/S AC	Jent 72 SONER; BOTTON Jenny 80	Phug	Type Tyr	.30 <x< th=""></x<>
Pluge & Heads: Top Plug Pressure: Circulating Displacement Detar Displaceme	Mining Dio BBIS PA	Sout 72 DONER; BOTTON DO 1725h	Plug Barrella HO BBK HO	Type Tyr 2 Plug bock #1 2 ANEAD OF	752 \$ 136 \$x
Pluge & Heads: Top Plug	pood with BB/S AC	Sout 72 DONER; BOTTON DO 1725h	Plug Barrella HO BBK HO	Type Tyr 2 Plug bock #1 2 ANEAD OF	.30 <x< th=""></x<>
Pluge & Heads: Top Plug	Mining Dio BBIS PA	Sent 72 SONER: BONON Sold Flush 9 Switch June	Plug  Heximum 206  Barrella  10 BBIS HJ  OSX Type C	Physical Phy	752 \$ 136 \$x
Pressure: Circulating Displacement Detar Dis	Mining Dio BBIS PA	Sent 72 SONER: BONON Sold Flush 9 Switch June	Plug Barrella HO BBK HO	Physical Phy	752 \$ 136 \$x
Pressure: Circulating Displacement Detar Dis	p iD BBK es ceneut (816 HA 80 BBs o	Phone (405) 873-421	Plug Description 700 Berreits 10 BBK H200 SX Type CER. Bump 11 or (400) 873-2628	Plug book # P 2 Ahead of 1 2 Ahead of 1 2 Whom Lix Howkype	752 \$ 136 \$x
Pressure: Circulating Displacement Data Displacement Data Displacement Data Displacement Data Displacement Data Displacement Data Displacement Data Displacement Data Displacement Data Displacement Data Displacement	p iD BBK es ceneut (816 HA 80 BBs o	Phone (405) 873-421	Plug Description 700 Berreits 10 BBK H200 SX Type CER. Bump 11 or (400) 873-2628	Plug book # P 2 Ahead of 1 2 Ahead of 1 2 Whom Lix Howkype	752 \$ 136 \$x
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Mobile: 873-4702			R & INVOICE	on Fig.	SEINER SO
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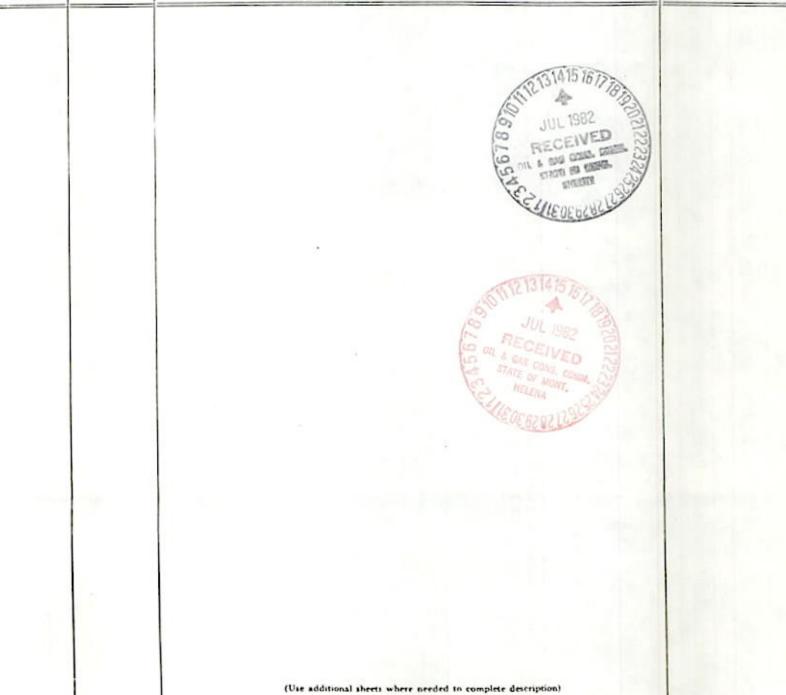
Transfer of

## CHECK SHEET

Date	February 18, 1982		of the state of the state of
Company	Oxy Petroleum Inc. Box 40	Mills, Wyoming	82644
well Name	Field		No. 1-34
County	Pondera	Field Wildcat	
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sec. 34 Twp. 29N Rge. 6W
	Permit No.	N-9655	
	Receipt No		NAME OF THE PERSON OF THE PERS
	Drilling Fee	75. 00	
	Intention to Drill	2-18-82	
	API No.	<u>M3-21609</u>	
	Permit Expiration Date	2 18 82	19-85
	Permit Extended 90 days From		То
	\$ 5,000 one well bond	-	
	\$10,000 blanket bond	x	
	\$20,000 blanket bond		
	Government well		
	Sundry Notices	Charl aperat	Lev 7-7.87
		Satisfe a weeker	on 1-2489
	" "		
			, ,
	Log of Well	3-8-82/3-2	8-82 3485 23
	Subsequent Report of Abandonmer	6-1-90	1 1 201-
	Electric Log		The Market Ball
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npany_O	XY PETROLEU	M, INC.		Leas	seC.	FIELD			Well No. 1-34
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							or sec.		4049' K.B.
34	; T2	9 N ; R.	6 W	; County_	PONDE	KA		; Elevation	n 4037' G.L. (D.F., R.B. or G.I
nmenced	drilling 3	- 8		, 19_	82; Comp	leted	3 -	28	, 1
The inf	formation given	herewith is	a complete	and correct	record of t	he well.	The sum	mary on this pa	age is for the cond
the well	at the above da	ate.					Blue	0 1	
npleted a	(oil well,	gas well, dry b	iole)		Signed	T	.D. BLAC	KLOCK	
					Title_Di	vision	Operati	ons Superin	tendent
					Date_J	UNE 2	8, 1982		
			IMPO	RTANT ZO					
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10000	to								
	to								
				CASING	G RECOR	D			
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6"	Per Ft.	Conductor		40'		40'	surfa		
5/8"	24 #	K-55	ST&C	175'		75'	surfa	ce 100	
1/2"	17_#	J-55	LT&C	3480'	3	480'	surfa	ce 200	2120'
				TUBING	G RECOR	D			
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430'	3424'	2 1/2" J.	н.Р.Г.	3430'	3424'	10	00 gals	of 15% HCL	
						4	I P&A show	v plugs above)	
				INITIAL P	PRODUCT	ION			
ell is pro	oducing from_	Madison	- Sun R	iver	_(pool) f	ormation	n.		
23		barrels of oil	perDay	y	100	Pumpi	ng		
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ne-		Mcf of gas pe		hour	rs. house, or_	Contract of the Contract of th		% W.C.	
4	,bar	rels of water	Pe1		News, or_ over		,		

#### INITIAL PRODUCTION—(Continued) Initial 10-day average production\_ Pressure (if measured): Tubing\_ \_(bbl./day) (if taken) psi flowing; psi shut-in Casing. psi flowing; psi shut-iu \_° API (corrected to 60° F.) Gravity\_\_\_25 JUL 1982 RECEIVED DIL & GAS CONS. COMM DRILL STEM TESTS D.S.T. Shut-In SIP. Cushion T.P. 890' of gas cut oil 890' of gas cut oil, 120' --<del>0</del>-3422 3433 75 128 731 1076 192 1075 3420 3435 105 262 --B-of gas cut water CORES LOG RUNS Interval Recovered Type From No. To DIL-SFL 3482 128 128 3482' FDC-CNL-GR BHC-GR 3482' 128' FORMATION RECORD (Need not be filled out if Geologist sample description filed with Commission) SAMPLE AND CORE NO. AND DESCRIPTION Top of Formetten From JUL 1982 RECEIVED IL & DIEG COMES, COM



## ELECTRICAL LOG FORMATION TOPS

CRETACEOUS	<u>DEPTH</u>	DATUM
Base Two Medicine Colorado Blackleaf Dakota Sunburst	743' 823' 1,767' 2,530' 3,042'	(+3,302') (+3,222') (+2,278') (+1,515') (+1,003')
JURASSIC		
Morrison Swift Rierdon Sawtooth	3,102' 3,177' 3,307' 3,403'	(+943') (+868!) (+738') (+642')
MISSISSIPPIAN		
Madison (Sun River)	3,423'	(+622')
DRILLER'S TD	3,4851	(+560')
LOGGER'S TD (Schlumberger)	3,482'	(+5631)

(SUBMIT IN QUADRUPLICATE) MAC 36-3.18(10)-S18020 MAC 36-3.18(10)-S18030 MAC 36-3.18(10)-S18140 THIS FORM BECOMES A
PERMIT WHEN STAMPED
APPROVED BY AN AGENT
OF THE BOARD MAC 36-3.18(10)-518170 BOARD OF OIL AND GAS CONSERVATION MAC 36-3.18(10)-S18200 OF THE STATE OF MONTANA MAC 36-3.18(10)-S18310 MAC 36-3.18(10)-S18330 BILLINGS OR SHELBY GAZ CONG. COM MAG/36-3.18(14)-S18380 RECEIVED OIL & GAS CONS. COMISUNDRY NOTICES AND REPORT OF WELLS MELLS STATE OF MONT. XXX Notice of Intention to Drill Subsequent Report of Notice of Intention to Change Plans Subsequent Report of Shooting, Acidizing, Cementing Notice of Intention to Test Water Shut-off Subsequent Report of Altering CasingMOUNT RECEIVED Notice of Intention to Redrill or Repair Well Subsequent Report of Redrilling or Repair Subsequent Report of Abandonment CHECK NO. Notice of Intention to Shoot, Acidire, or Cement Notice of Intention to Pull or Alter Casing Supplementary Well History DRILLING PERMIT NO Report of Fracturing Notice of Intention to Abandon Well EXPIR. DATE (Indicate Above by Check Mark Nature of Report, Notice, or Other Data) February 10 Following is a notice of intention to do work on land owned described as follows: X-X-X-X LEASEField Pondera MONTANA (County) SE NW/SW MPM 29N 6W Well No. 1-34

ft. from line and 1300 ft. from LOCATE WELL SITE ACCURATELY ON PLAT ON BACK OF THIS FORM.

The elevation of the ground on B. above the sea level is

CORESPANDED THE COMMESCIONARE TUCKS BOARTS TO THE COMMISSION OF TH OR RUN IS REQUIRED IN ACCORDANCE WITH DETAILS OF WORK ACCORDANCE WITH MAC 36-3.18(10)-S18300 RESULT RULE NO. 230.

This well will be a test of the Madison zone for oil. Estimated total depth is 3600'. Surface pipe will be set at 500' with 250sx. Pipe will be 9 5/8"/40 sx. Production pipe will be 5 1/2"/17# set at total depth with 250 sx. Production zones will be treated with acid. Estimated tops include Dakota 2492'; Morrison 3077'; Swift 3127'; and Madison 3405'.

Approved for Gas only

Approved	subject	to	conditions	on	reverse	of	form
----------	---------	----	------------	----	---------	----	------

FEB 1 8 1982

By Hatcher Petro-Land Inc

Company Oxy Petroleum Inc

Box 40, Mills, Wyoming 82644

(Range)

N-965

82

(Meridian)

34

AddressAgent

(Township)

District Office Agent

BOARD USE ONLY API WELL NUMBER

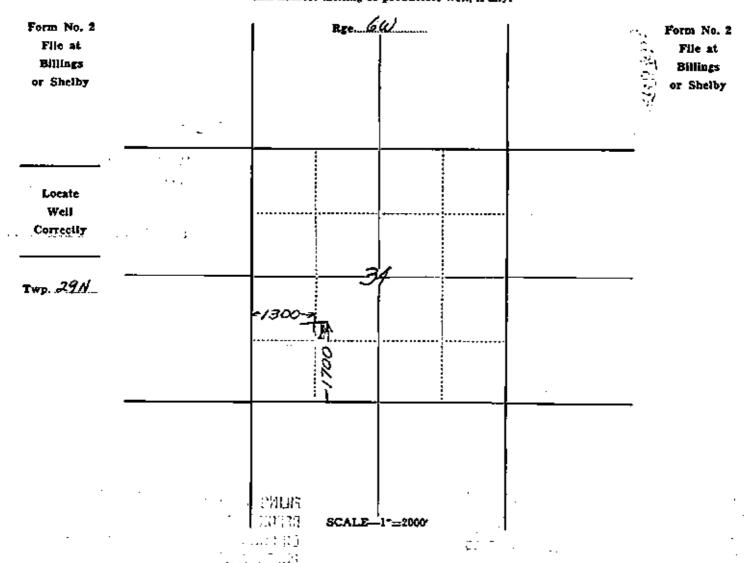
0 73

NOTE:-Reports on this form to be submitted to the appropriate District for approval

WHEN USED AS PERMIT TO DRILL, PERMIT EXPIRES 90 DAYS FROM DATE OF APPROVAL IF WELL NOT SPUDDED OR EXTENSION REQUESTED.

#### Locate well by footage measurement from legal subdivision (Section) line and nearest drilling or producible well, if any,





THE NOTICE OF INTENTION TO DRILL THIS WELL IS APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:

- 1. Any person, before commencing the drilling of any oil or gus well or water source or injection well shall secure from the Board a drilling partnit and shall pay to the Board the following amounts: for each well whose estimated depth is thirty-live hundred (3,500) feet or less, thenty-five dollars (425,00): from thirty-five hundred and one (3,501) feet to seven thousand (7,000) feet, seventy-five dollars (475,00): seven thousand and one (7,001) feet and deeper, one hundred (110) dollars (415,00).
- 2. No well is to be spudded in unless the proper surety drilling bond has been posted and approved by the Board of Oil and Gas Conserva-
  - 3. Cable tool operators must construct an adequate sump to contain all mud and water bailed from the hole,
- 4. Surface of conductor casing must be properly remented by an approved method and pressure tested to determine a light bond with the surrounding formations in case an unexpected flow of oil, gas or water should be encountered, unless special permission has been granted for formation shut-off,
- 5. Any production casing must be estimated unless a formation shut-off or packer is approved by the Board. Sufficient cement must be used to protect the casing and all possible productive and fresh water bearing formations exposed in the process of drilling and not otherwise protected.
- 6. All production easing must be tested by bailing or pressure to determine if there is a Usht band with the surrounding formations or possible leaks in the casing. The results of the test must be reported on Form No. 2, said report to include the size, weight, thread and length resumed, amount of cement used, and date work is done. If test shows figure, the defect must be corrected before any drilling operations are
- 7. Any contemplated change in status of a well such as to plug and alsanden, deepen, plug tack, redrill, after casing, etc. must be preseated on Porm No. I for approval by the Board prior to commencement of work.
- 5. A satisfactory drilling record must be kept for each tour, showing top and thickness of each and all formations drilled and all other information of value, one copy of which is to be kept at the rig while drilling is in progress for examination by any authorized agent of the Board.
- \*. All producing wells must be marked with name of the operator, number of the well and location, using reasonable precautions to preserve these markings at all times.
- 10. Delivery to the Board of two copies of all surveys, reports, analyses, jogs, tests, samples and core descriptions, etc., as described in Rule 220 and one copy of all cementing records as furnished by the cementing company and described in Rule 234.
- 11. All work must be done in conformity with the regulations of the Board of Oil and Gas Conservation of the State of Montana, as contained in "General Rules and Regulations," and amendments thereto, as well as regulations prescribed in licu thereof.

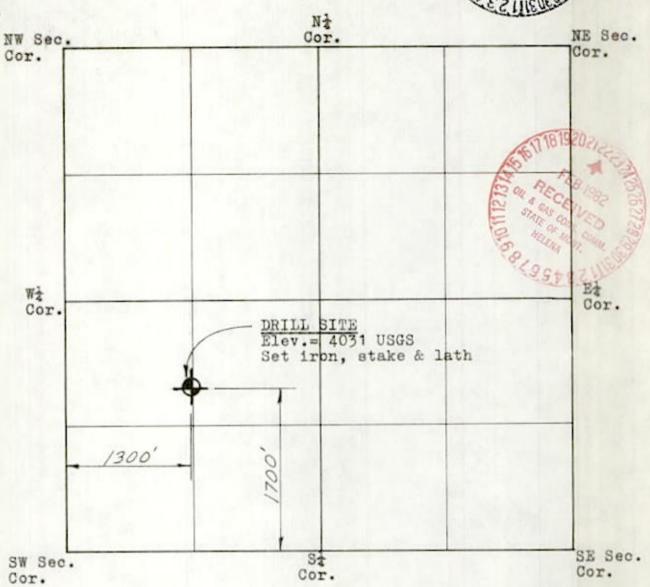
## DRILLING SITE SURVEY

SECTION 34

T29N, R6W, P.M.M.,

PONDERA COUNTY, MONTANA





SURVEY FOR: Oxy Petroleum Company c/o Mr. Dennis Lopez 410 17th Street, Suite 850 Denver, Colorado 80202

PURPOSE OF SURVEY: To locate a drill site in the NW2 of the SW2, Sec. 34, T29N, R6W, PMM, Pondera County, Montana.

WELL NO .- Field 1-34

### SURVEYORS CERTIFICATE

I, Robert E. Findorff of Choteau, Montana do hereby certify that this is a correct and true survey as hereon delineated and is located in the NW2 of the SW2, Sec. 34 T29N, R6W, PMM, Pondera County, Montana.

19 1992

Robert E. Pindorff Registration No. 39#6ES

Box 490

Choteau, Montana 59422

## HATCHER PETRO-LAND, INC.

"Let Marv Handle Your Permit Requirements" P.O. Box 38 • Mills, Wyoming 82644

> Marvin L. Hatcher, Boss Bus. Phone 307 - 237-8201 Home Phone 307 - 234-6718

Oxy Petroleum Inc. #1-34 SE NE SW 34-29N-6W, Ponders County, Montans

Estimated Geological Tops

Cretaceous	
Colorado Shale	818'
Blackleaf	1808'
Bow Island	2238'
Dakota	2492
Kootenai	2542'
Sunburst	30321
Jurassic	
Morrison	3077'
Swift	3127'
Rierdon	3290'
Sawtooth	3393
Mississippian	
Madison	3405
Proposed Total Depth	3600'





#### (SUBMIT IN QUADRUPLICATE)

NOTICE THIS FORM BECOMES A PERMIT WHEN STAMPED APPROVED BY AN AGENT OF THE BOARD.

STATE OF MONT.

BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA NOADD OF DR. & GAS CORS.

BILLINGS OR SHELBY

SHILLY SUNDRY NOTICES AND REPORT OF WELLS

ARM 36-22,307 ARM 36,22,601 ARM 16.22.602

ARM 36,22,1004

ARM 36.22.603 ARM 36:22:604 ARM 16.22,605

ARM 36.22.1013 ARM 36-22-1301 ARM 36-22-1306 ARM 36-22-1309

ARM 36.22.1003

#### Notice of Intention to Drill Subsequent Report of Water Shut-off Notice of Intention to Change Plans Subsequent Report of Shooting, Acidizing, Cementing Subsequent Report of Altering Casing Notice of Intention to Test Water Shut-off Notice of Intention to Redrill or Repair Well Subsequent Report of Redrilling or Repair Notice of Intention to Shoot, Acidize, or Cement Subsequent Report of Abandonment Notice of Intention to Pull or Alter Casing Supplementary Well History Report of Fracturing Notice of Intention to Abandon Well

(Indicate Above by Check Mark Nature of Report, Notice, or Other Data) . 1989 Following is a notice of intention to do work on land owned described as follows: MONTANA POWARRA
(State) SENUSCO (County) EAST CROCKER SPRINGS Well No. 1-34 FIELD The well is located 1700 ft. from the line and 1300 ft. from the line of Sec. 34 For notice of intention to drill, write the API or the well name of another well on this lease if one exists, LOCATE WELL SITE ACCURATELY ON PLAT ON BACK OF THIS FORM. The elevation of the ground or K.B. above the sea level is \_\_\_

READ CAREFULLY

#### DETAILS OF PLAN OF WORK

READ CAREFULLY

(State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings, cementing points, and all other important proposed work, particularly all details of Shooting, Acidizing, Fracturing.)

## DETAILS OF WORK

WELL WAS DLUGGED WITH ZOSX PLACED GAT BOTTOM OF CASING AND 10SX AT SURFACE. WELL SERVICING BY JRBACON AND REMENT PROVIDED AND PUMPRA BY HALLIBURTOR

LOCATION INSPECTED & APPROVED 5-31-90 G.L

Approved subject to conditions on reverse of form

JUN 0 1 1990 Date

District Office Agent

Company ARCHEAN MINING FOR WESTERN RESERVES By GLEN M. LANDRY

Title DRESIDENT OF ARCHEAU

Address P.O. Box 3502, BILLINGS, MT

BOARD USE ONLY



NOTE:-Reports on this form to be submitted to the appropriate District for approval DRILLING PERMIT EXPIRES SIX MONTHS FROM DATE OF APPROVAL.

## Locate well by footage measurement from legal subdivision (Section) line and nearest drilling or producible well, if any.

Form No. 2 File at Rillings or Shelby		Rge. Co	<i>w</i>			Form No. 2 File at Billings or Shelby
Locate Well Correctly	·					_
Twp.29a)	٥		,	·	.:	•
		1	-1-=2000°		1 1 1	-

#### THE NOTICE OF INTENTION TO DRILL THIS WELL IS APPROVED SUBJECT TO THE FOLLOWING CONDITIONS!

- 1. Any person, before commencing the drilling of any oil or gas well or water source or injection well shall secure from the Board a drilling permit and shall pay to the Board the following amounts: for each well whose estimated depth is thirty-five hundred (3,500) feet or less, twenty-five dollars (\$25.00); from thirty-five hundred and one (3,501) feet to seven thousand (7,000) feet, seventy-five dollars (\$75.00); seven thousand and one (7,001) feet and deeper, one hundred fifty dollars (\$150.00).
- No well is to be spudded in unless the proper surety drilling bond has been posted and approved by the Board of Oil and Gas Conservation of the State of Montana. Date of spudding must be reported to the Board verbally or in writing within 72 hours of commencing drilling.
  - 3. Cable tool operators must construct an adequate sump to contain all mud and water bailed from the hole,
- 4. Surface or conductor casing must be properly cemented by an approved method and pressure tested to determine a tight bond with the surrounding formations in case an unexpected flow of oil, gas or water should be encountered, unless special permission has been granted for formation shut-off.
- 5. Any production casing must be comented unless a formation shut-off or packer is approved by the Board. Sufficient coment must be used to protect the easing and all possible productive and fresh water bearing formations exposed in the process of drilling and not otherwise protected.
- 6. All production casing must be tested by bailing or pressure to determine if there is a tight bond with the surrounding formations or possible teaks in the casing. The results of the test must be reported on Form No. 2, said report to include the size, weight, thread and length of easing, amount of cement used, and date work is done. If test shows failure, the defect must be corrected before any drilling operations are returned.
- 7. Any contemplated change in status of a well such as to plug and abandon, deepen, plug back, redrill, alter easing, etc. must be presented on Form No. 2 for approval by the Board prior to commencement of work.
- 8. A satisfactory drilling record must be kept for each tour, showing top and thickness of each and all formations drilled and all other information of value, one copy of which is to be kept at the rig while drilling is in progress for examination by any authorized agent of the Board.
- All producing wells must be marked with name of the operator, number of the well and location, using reasonable precautions to preserve these markings at all times.
- 10. Delivery to the Board of two copies of all surveys, reports, analyses, logs, tests, samples and core descriptions, etc., as described in Rule 36.22.1013 and one copy of all comenting records as furnished by the comenting company and described in Rule 36.22.1241.
- 11. All work must be done in conformity with the regulations of the Board of Oil and Gas Conservation of the State of Montana, as contained in "General Rules and Regulations," and amendments thereto, as well as regulations prescribed in lieu thereof.

NOTICE THIS FORM BECOMES A PERMIT WHEN STAMPED APPROVED BY AN AGENT OF THE BOARD.

#### (SUBMIT IN QUADRUPLICATE)

TO

ARM 36.22.307 ARM 36.22.601 ARM 36.22.1003 ARM 36.22.1004

ARM 36.22.602 ARM 36,22,603 ARM 36-22.604 JAN 1988M 3672 605

ARM 36.22.1013 ARM 36.22.1301 ARM 36.22.1306 ARM 36.22,1309

BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA

BILLINGS OR SHELBY

RECEIVED - DOARD OF OR & GAS CORES SUNDRY NOTICES AND REPORT OF WELLS IN A CASE

otice of Intention to Drill	Subsequent Report of Water Shut off	C
otice of Intention to Change Plans	Subsequent Report of Shooting, Additing, Comenting	ColVA
otice of Intention to Test Water Shut-off	Subsequent Report of Altering Casing Subsequent	400
otice of Intention to Redrill or Repair Well	Subsequent Report of Redrilling or Repair	80 Ms
otice of Intention to Shoot, Acidize, or Cement	Subsequent Report of Abandonment	
otice of Intention to Pull or Alter Casing	Supplementary Well History	8183
otice of Intention to Abandon Well	Report of Fracturing	

JANUARY 9 . 1989 Following is a notice of intention to do work on land described as follows: leased MONTANA SENWEL Well No. /-34 F/ELD (Meridian) The well is located \_ /700 ft. from \ is line and /300 ft. from w line of Sec. 37

For notice of intention to drill, write the API' or the well name of another well on this lease if one exists. LOCATE WELL SITE ACCURATELY ON PLAT ON BACK OF THIS FORM.

The elevation of the ground or K.B. above the sea level is

READ CAREFULLY

#### DETAILS OF PLAN OF WORK

READ CAREFULLY

(State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings, cementing points, and all other important proposed work, particularly all details of Shooting, Acidizing, Emeturing)

DETAILS OF WORK

INTEND ON TABBING BOTTOM @ APPROXIMATELY 3455 AND PLACE A ZO SACK PLUG OF REGULAR CEMENT ACROSS DERFORATIONS AT 3424 TO 3430, WILL PLACE ADDITIONAL 5 SACK PLUG AT SUBJEACE AND CU CASING OFF BELOW PLOW DEPTH

VERBAL APPROVAL : 1/11/89 BY FLOYD PODALL

Approved subject to conditions on reverse of form

Company WESTERN RESERVES

Date

District Office Agent

Field Spewiso, Title

Address

59932

BOARD USE ONLY API WELL NUMBER



NOTE -- Reports on this form to be submitted to the appropriate District for approval DRILLING PERMIT EXPIRES SIX MONTHS FROM DATE OF APPROVAL.

A-101

### Locate well by footage measurement from legal subdivision (Section) line and nearest drilling or producible well, if any.

Form No. 3 File at Billings or Shelby	Rec	<u>ω</u> _	Form No. 2 File at Billings or Shelby
Locate Weli Correctly			•
Twp. 291/	#		
	SCALE_	-1*== <b>2000</b> *	

#### THE NOTICE OF INTENTION TO DRILL THIS WELL IS APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:

- 1. Any person, before commencing the drilling of any oil or gas well or water source or injection well shall secure from the Board a drilling permit and shall pay to the Board the following amounts: for each well whose estimated depth is thirty-five hundred (3,500) feet or less, twenty-five dollars (\$25.00); from thirty-five hundred and one (3,501) feet to seven thousand (7,000) feet; seventy-five dollars (\$75.00); seven thousand and one (7,001) feet and deeper, one hundred fifty dollars (\$150.00).
- No well is to be spudded in unless the proper surety drilling bond has been posted and approved by the Board of Oil and Gas
  Conservation of the State of Montana. Date of spudding must be reported to the Board verbally or in writing within 72 hours of
  commencing drilling.
  - 3. Cable tool operators must construct an adequate sump to contain all mud and water bailed from the hole.
- 4. Surface or conductor easing must be properly cemented by an approved method and pressure tested to determine a tight band with the surrounding formations in case an unexpected flow of oil, gas or water should be encountered, unless special permission has been granted for formation shut-off.
- 5. Any production casing must be exmented unless a formation shut-off or packer is approved by the Board. Sufficient cement must be used to protect the casing and all possible productive and fresh water bearing formations exposed in the process of drilling and not otherwise protected.
- 6. All production casing must be tested by balling or pressure to determine if there is a tight bond with the surrounding formations or possible leaks in the casing. The results of the test must be reported on Form No. 2, said report to include the size, weight, thread and length of casing, amount of cement used, and date work is done. If test shows failure, the defect must be corrected before any drilling operations are resumed.
- 7. Any contemplated change in status of a well such as to plug and abandon, deepen, plug back, redrill, alter casing, etc. must be presented on Form No. 2 for approval by the Board prior to commencement of work,
- B. A satisfactory drilling record must be kept for each tour, showing top and thickness of each and all formations drilled and all other information of value, one copy of which is to be kept at the rig while drilling is in progress for examination by any authorized agent of the Board.
- 9. All producing wells must be marked with name of the operator, number of the well and location, using reasonable precautions to preserve these markings at all times,
- 10. Delivery to the Board of two copies of all surveys, reports, analyses, logs, tests, samples and core descriptions, etc., as described in Rule 36.22.3013 and one copy of all cementing records as furnished by the cementing company and described in Rule 36.22.1241.
- 11. All work must be done in conformity with the regulations of the Board of Oil and Gas Conservation of the State of Montana, as contained in "General Rules and Regulations," and amendments thereto, as well as regulations prescribed in lieu thereof.

(SUBMIT IN QUADRUPLICATE)

TO

NOTICE
THIS FORM BECOMES A
PERMIT WHEN STAMPED
APPROVED BY AN AGENT
OF THE BOARD.

## BOARD OF OIL AND GAS CONSERVATED OF THE STATE OF MONTANA

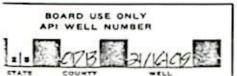


ARM 36.22.1003 ARM 38.22.1004 ARM 36.22.1013 ARM 36.22.1301 ARM 36.22.1306 ARM 36.22.1309

## SUNDRY NOTICES AND REPORT OF WELLS

Notice of Intention to Drill # DE	1	Subsequent Report of Water Shut-off
Notice of Intention to Change Plans		Subsequent Report of Shooting, Acidizing, Cementing
Notice of Intention to Test Water Shut-off	1	Subsequent Report of Altering Casing
Notice of Intention to Redrill or Repair Well		Subsequent Report of Redrilling or Repair
Notice of Intention to Shoot, Acidire, or Cement		Subsequent Report of Abandonment
Notice of Intention to Pull or Alter Casing		Supplementary Well History
Netice of Intention to Abandon Well		Report of Fracturing
change of operator	X	
Understa Above by Check	W W	store of Based Nation of Other Base

May 12, 1987 Following is a notice of intention to do work on land owned described as follows: leased LEASE Fields private LEASE TYPE ... (Private, State, Federal, Indian) East Crocker Springs Pondera MONTANA (Field) (County) Well No. 1-34 Field (Township) (Range) (Meridian) line and 1300 line of Sec. 34 The well is located \_\_1700 N ft. from \_ ft. from For notice of intention to drill, write the API\* or the well name of another well on this lease if one exists. LOCATE WELL SITE ACCURATELY ON PLAT ON BACK OF THIS FORM. ground The elevation of the ground or K.B. above the sea level is READ CAREFULLY DETAILS OF PLAN OF WORK READ CAREFULLY (State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings, cementing points, and all other important proposed work, particularly all details of Shooting, Acidizing, Fracturing.) DETAILS OF WORK RESULT The new operator is Western A change of operator is hereby submitted. Reserves, Inc. Western Reserves hereby accepts this change: CITIES SERVICE OIL AND GAS CORPORATION Company Approved subject to conditions on reverse of form JUL 0 7 1987 RIGHTAL SIGNED BY Dee jückman, Executive Secretary Attorney-In-Fact District Office Agent Title P. O. Box 300, Tulsa, OK 74102 Address



NOTE—Reports on this form to be submitted to the appropriate District for approval.

DRILLING PERMIT EXPIRES SIX MONTHS FROM DATE OF APPROVAL.

READ CAREFULLY

#### DETAILS OF PLAN OF WORK

READ CAREFULLY

(State names of and expected depths to objective sands, show size, weights, and lengths of proposed casings, cementing points, and all other important proposed work, particularly all details of Shouting Acidizing, Fracturing (

#### DETAILS OF WORK RESULT

Although Occidental Petroleum is still the lessee of record, Cities Service Oil & Gas Corporation now operates the above mentioned well.

Posted ontoned yet

Transferred from Oxy Petroleum, Inc. bond to Cities Service Wil and Cas Corp. bond.

Approved subject to conditions on reverse of form	Company Cities Service Oil & Gas Corporation					
Date 1. 1.	By Janty 1. Tale					
By District Office Agent Title	Title Engineer 1600 Broadway, Suite 900					
	Address Denver, Colorado 80202					



Perrite Per

OPERATIONAL SUMMARY AND GEOLOGICAL WELL HISTORY



OXY PETROLEUM, INC.

#1-34 CHARLES W. FIELD
SECTION 34, T29N-R6W
PONDERA COUNTY, MONTANA

by S. S. WARNER, GEOLOGIST,
OXY PETROLEUM, INC.

## RESUME

SPUD DATE:

March 9, 1982 @ 1:30 a.m.

RIG RELEASED:

March 28, 1982 @ 10:00 a.m.

STATUS:

Shut in - Waiting on completion.

ELEVATION:

G.L. - 4,033' D.F. - 4,044' K.B. - 4,045'

TOTAL DEPTH:

3,485' (Driller's) 3,482' (Logger's)

CONTRACTOR:

General Well Service, Inc. Rig #21

TYPE RIG:

Cooper LTO Double Drum, 104' derrick, powered by GMC 8V-71N derrick engine

MUD PUMP:

Continental Emsco Type D-375, strock

length - 14"

MUD PROGRAM:

Surface hole, 0-180', gel-lime slurry

Air drilling, 180-415', watered out at

415'

Drilled w/mud, 415'-TD, a nondispersed

ligno-sulfonate mud system

HOLE SIZE:

0-180' - 12-1/4"

180'-TD - 7-7/8"

SIZE DRILL PIPE:

3-1/2", 13.30 lbs./ft., Grade E, IF Thread

SIZE DRILL COLLARS:

5-1/2" OD: 4" ID

NO. DRILL COLLARS:

18 (517.41')

SAMPLE INTERVALS:

30', 15' and 10' samples from 180' to TD

SAMPLE QUALITY:

Fair to excellent

CORES:

(1) 3,430-35' - no recovery

DRILLSTEM TESTS:

#1, 3,422-33', Madison (Sun River)

#2, 3,420-35', Madison (Sun River)

#### MUD AND AIR DRILING SUMMARY

SURFACE HOLE:

Gel-lime slurry

MATERIALS USED:

 Hydrogel
 26 sx

 Lime
 4 sx

 Caustic sodn
 1 sack

BELOW SURFACE:

Air drilling to 415'

415'-TD - Nondispersed ligno-sulfonate

mud system

MATERIALS USED:

Hydrogel 365 sx Driscose (Low) 26 sx Raychrome (CLS) 49 sx 5 sx Causticized lignite Soda ash 4 sx Caustic soda 18 sx Defoamer 5 gals Mica (Fine) 27 sx Ironite sponge 10 sx Ammonium nitrate 13 sx

## MATERIAL DESCRIPTION

HYDROGEL:

High yield Wyoming bentonite (100# bag)

- Used as viscosity builder.

LIME:

Calcium hydroxide (50# bag) - Used as

viscosity builder.

CAUSTIC SODA:

Sodium hydroxide (50# bag) - Used to

control pH.

DRISCOSE:

Sodium carboxylmethyl cellulose (50# bag) - Used to help control water loss.

RAYCHROME (CLS):

Chrome lignosulfonate (50# bag) - Used to help control water loss and as defloc-

culent.

CAUSTICIZED LIGNITE:

Lignite thinner - causticized (50# bag) - Used to help control water loss and as

deflocculent.

SODA ASH:

Sodium carbonate (100# bag).

MICA:

Mica flakes (50# bag) - Used as a hole

lubricant.

IRONITE SPONGE:

Iron oxide H<sub>2</sub>S scavenger (50# bag) -

Used as an H2S scavenger.

AMMONIUM NITRATE:

Ammonium nitrate (50# bag) - Used as a

formation water tracer.

## BIT RECORD

No.	Size	Make	Туре	Feet	Hours	Wt. on Bit	RPM's	Pump Pres.
1 A	12-1/4	STC	DJ	180'	11.00	15,000	120	100
1	7-7/8	Hughes	OSC-3	2351	7.25	20,000	60	500
2	7-7/8	Reed	FP-12	1,1451	30.50	20,000	120	800
3	7-7/8	Recd	4-12	2201	6.25	20,000	120	800
4	7~7/8	STC	DTJ	148'	7.00	15,000	120	800
5	7-7/8	Hughes	J-22	1,081'	100.50	20,000	50/80	1,000
6	7-7/8	Hughes	J-22	424'	52.25	20,000/ 25,000	60/80	1,000
7	7-7/8	Chris	MC-23	5‡	.50	3,000/ 8,000	50/55	210

## LOGGING PROGRAM - SCHLUMBERGER

128-3,4761	Dual Induction - SFL
102-3,480'	Compensated Neutron Density - Gamma Ray
50-3,470'	Bore Hole Compensated Sonic - Gamma Ray

A Schlumberger Cyberlook Computer Processed Log was made over the interval 1,750-3,480'.

## VERTICAL HOLE DEVIATION SURVEYS

<u>DEPTH</u>	DEGREES
560'	0
1,560'	1
1,780'	4-1/4
1,923'	4-1/4
2,811'	4
3,0091	4
3,254'	3-3/4
3,433'	3-3/4

For detailed deviation, see enclosed report by AMF Scientific Drilling (a magnetic directional survey).

#### SAMPLE DISTRIBUTION

Washed, wet samples were enught and shipped to American Stratigraphic Company's sample library in Denver, CO. These are to be cut and shipped to the following:

- MT Oil & Gas Conservation Comm. 2535 St. Johns Avenue Billings, MT 59101
- 2) OXY Petroleum, Inc.
  Attention Mr. S. S. Warner
  One Denver Place, Tower II
  999-18th Street, Suite 1501
  Denver, CO 80202
- Hunt Energy Corporation
   Attention Ms. Linda Ehlers
   2500 First National Bank Bldg.
   Dallas, TX 75202
- 4) Sun Exploration Company
  Attention Mr. Chris Clear
  Trinity Place
  1801 Broadway, Suite 1000
  Denver, CO 80202

#### ELECTRICAL LOG FORMATION TOPS

CRETACEOUS	<u>DEPTH</u>	DATUM
Base Two Medicine Colorado Blackleaf Dakota Sunburst	743' 823' 1,767' 2,530' 3,042'	(+3,302') (+3,222') (+2,278') (+1,515') (+1,003')
JURASSIC		
Morrison Swift Rierdon Sawtooth	3,102' 3,177' 3,307' 3,403'	(+943') (+868') (+738') (+642')
MISSISSIPPIAN		
Madison (Sun River)	3,4231	(+622')
DRILLER'S TD	3,485'	(+560')
LOGGER'S TD (Schlumberger)	3,482'	(+563')

#### DRILLSTEM TESTS

DST#1:		mite). O flow peri	ITS during initia	un River Dolo- al shut-in, final i @ rate of 9-5 i.
		Preflow: Initial shi Final flow Final shu	₩:	15 min. 33 min. 60 min. 95 min.
PRESSURES:	First Period		3,402' Top	3,429' Boltom
		IHP IFP FFP SIP	1635.3 107.2 111.5 1061.8	1648.2 723.6 455.4 1075.0
	Second Period	IFP FFP FSI FHP	151.9 297.6 1063.6 1606.1	440.5 730.7 1075.9 1617.6
RECOVERY:			id - 950' - 60' 90' of gas cut (	of ammonia cut
<u>DST #2</u> :		mite). G 21-34 MC flow per	TS in 6 min. F. CFD. Oil to suri	iun River Dolo- lowed @ rate of face during final rtially unloaded
		Preflow: Initial sh Final flo Final shu	w:	60 min. 60 min. 132 min. 45 min.
PRESSURES:	First Period		3,4021 Top	3,4291 Bottom
		ihp ifp ffp sip	1673.7 75.0 270.1 1061.8	1694.6 101.2 276.2 1078.2
	Second Period	ifp ffp fsi fhp	318.6 241.1 1061.0 1673.7	343.9 262.4 1074.7 1694.6
RECOVERY:			id - 1,010' - 89 nd 120' of gas	20' of highly gas out water.

#### CORE DATA

One core was cut in Mississippian Madison (Sun River dolomite) from 3,430-35\*. There was no recovery. Penetration rate for the core was 1 to 5 minutes/ft.

#### DAILY ACTIVITY SUMMARY

#### (Calendar Days)

3/8/82	Moved in and rigged up General Well Service Rig #21. Drilled rat hole.
3/9/82	Spudded at 1:30 a.m. Drilled 12-1/4" surface hole to 180'. Set 8-5/8" surface easing with 175 sx. cement plus 3% CaCl at 113'.
3/10/82	Nippling up. Tested BOP's to 900#. Held for 15 minutes. Rigged up air equipment.
3/11/82	Blew hole dry and drilled with air to 415'. Changed over to mud and

3/12/82 Drilled 747-1,373'. Had tight hole at 778'.

water and drilled to 747'.

- 3/13/82 Drilled 1,373-1,780'. Tripped for new bit at 1,560'.
- 3/14/82 Drilled 1,780-2,003'. Tripped for new bit at 1,928'.
- 3/15/82 Drilled 2,003-104'.
- 3/16/82 Drilled 2,104-360'.
- 3/17/82 Drilled 2,360-782'.
- 3/18/82 Drilled 2,782-968'.
- 3/19/82 Drilled 2,968-3,065'. Tripped for new bit at 3,009'. Tight hole.
- 3/20/82 Drilled 3,065-254'.
- 3/21/82 Drilled 3,254-419'.
- 3/22/82 Drilled to 3,433'. Conditioned mud. Made short trip to pull out for DST #1.
- 3/23/82 Completed DST #1. Tripped in and conditioned hole for Core #1. Cut core and tripped out.
- 3/24/82 Tripped out with Core #1. Tripped in for DST #2.
- 3/25/82 Ran DST #2. Tripped in. Drilled to 3,482' and conditioned hole.
- 3/26/82 Tripped out to run Schlumberger logs.
- 3/27/82 Set 5-1/2" casing at 3,480". Tagged plug with 2-7/8" tubing at 3,455".
- 3/28/82 Rig was released at 10:00 a.m.

#### LITHOLOGY

Sample descriptions begin at 170' in Cretaceous Montana Group beds. Drilling time lag was used to adjust lithology. Formation tops were determined from electrical logs. Samples were examined both wet and dry and described wet. For lithology descriptions, see the enclosed lithologic log.

$\prod$	MAX	' S	TEST	ING	618910	TITA			
	DOI 816	(4	CVT BA	ME - MONTANA 3743)	A Ta	16/3			Canada
USTOMER	Occiden	tal Expl	loration &	Product	Con Co. MAY 1	82 DATE 2	5-03-82	2	9 6
ELL NO.	#1-34 F	ield		K	BELV. 4045 E / 1	F TICKET # FORMATION TYPE OF	863 DS	T. Two	* 15
ELL LOCAT	TION Sec.	34-T29N-	-R6W	G	ELV. 4035 CONS	FORMATION	Madis	n	
NTERVAL 3	3420-343	5	1.0. 3435	ft N	ETYPAY _ STATE OF MO	TYPE OF	TEST Bott	om Hole	8
DUNTY PO	ondera			S	TATE Montana	NO.			
		825			63502 175	226	F. 25 (10)		
ECORDE	ER DATA	Al	LL MEASUREME	NTS ARE IMP	ERIAL	TIME DATA	CCO	NVENTIC	INAL
60	REC.		10981		10982		58 to	09:58	HR.
60	DEPTH		3402		- 3431		58 to		HR.
132	CLOCK		21132		21134	SF fr. 10:			
\$ 45	BLANKED OFF		No		Yes	FS fr. 13:	10 to	13:55	HR.
		PSI		PSI					1
. Init. I		1670.2	1673.7	1692.1	1694.6				HR.
First	Flow	75.9	75.0	102.9	101.2	TIME ON BTM	08:4		HR.
	Flow	273.6	270.1		276.2	TIME OPEN	08:5		HR.
In Shu	t-in	1065.3	1061.8	1081.6	1078.2	TIME PULLED			HR.
Init.		321.3	318.6	351.6	343.9	TIME OUT	17:3	0	HR.
. Final		247.2	241.1	265.8	262.4	HUD DATA			
Fi Shu		1065.3	1061.0	10/3.0	1074.7		C-1		1
Final	HYG.				1694.6 Computed_	MUD TYPE MUD WEIGHT	Gel 9.3		- 1
		F1810	Computed	F1610	Computed_	VISCOSITY	75		
	DV					WATER LOSS	5.4		1
COVE			E0E (* 1- D C	50	5 ft in D.P.				
OTAL FLU			cut with			MUD DROP	2/32		
			ter unloa			nub DRUF	_		
	ft of Gas			urns.		SAMPLER DA	TA		i
	ft of _	001 110				SURFACE PRESSURE			
-						CUBIC FT. GAS			
UID	RE	SISTIVI	TY TE	MP C1.	CONTENT		1050		
D PIT		2.4		52	2900	C. C. Mud	300		- 1
D PIT F	ILTRATE	1.9	5	52	3700	TOTAL C.C. LIGUI			
COVERED	WATER		_	-	_	GRAVITY & 60'f	33.4		1
COVERED	מטא (		-	_	_	GAS/DIL RATIO	90.7		·
COVERED	MUD FILTRATE		_	-	_		220		5
						GENERAL DA			Popular No.
EMARK						SURFACE CHOKE		2-1/4	3
			th strong bl			BTM. CHOKE	. 75		
			Turned to 2			HOLE SIZE	Nil		Int No
					ce-1 1/2 lbs	AMT.OF FILL	Nil		3
		g at 3 lbs	(24.0 MCF)	then decre	asing to	BTM.H.TEMP	77		- 1
2 1/2	Pounds.					PORDSITY I HOLE COND	Good	0	1
	T 00	50 has				CUSHION AMT	Nil		
10500	Tool at 09	.DB hrs.				CUSHION TYPE	Nil		1
lannad	Too! at 10	50 kps ui	ith strong b	ou-turned	to 1/4 inch	BACK PRESS. VAL			3
			Peaked at			TESTER	DeKa	ye	3
					ud and Oil to	WITNESS	Warn		
	ice at 12.2					CONTRACTOR			11 Serv
						RIG #	#21	co/26	

TEST SUCCESSFUL

Closed Tool at 13.10 hrs.

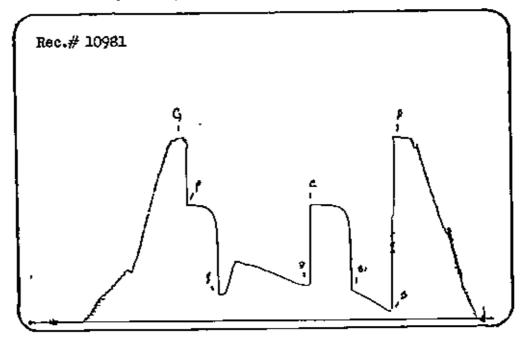
Pulled off bottom at 13.55 hrs.

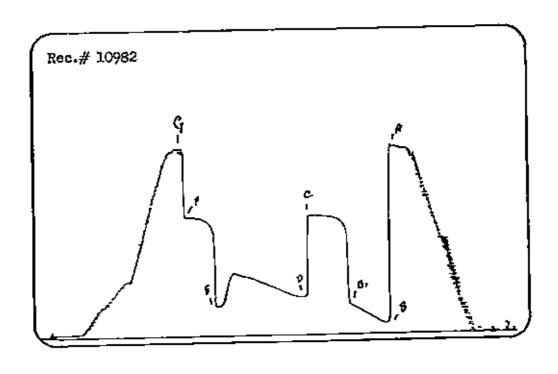
NAME: Field #1-34 DATE: 25-03-82

LOCATION: Sec.34-T29N-R6W TK#: 863 DST#: Two

TIME	CHOKE SIZE in.	SURFACE PRESSURE 16s.		FIGNID	REMARKS
09:04					Gas to surface.
00:00 09:14	1/4	2 1/2	23.0	None	Increasing slightly.
00:00 09:24	1/4	2 1/2	23.0	M '	An abava
00:00	277	2 1/2	23.0	NOTE	As above.
09:34	1/4	3	24.0	None	Peaked.
00:00					
09:44	1/4	2 1/2	23.0	None	Holding steady.
00:00 09:54	1/4	2 1/2	23.0	None	As above
00:00	• • •		20.0		NO GROVE
09:58					Elosed tool
00:00					
10:58 00:00					Seen tool
11:08	1/4	2 1/2	23.0	None	Starting to surge.
00:00					
11:18	1/4	2.0	22.0	None	As above
00:00 11:28	1/4	1	21.0	None	As above
00:00	• • •	•	44.14	1.011.6	H3 8464E
11:38	1/4	5 1/2	27.0	None	Sursing at moderate rate.
00:00	4.4	6.449	20.4	N	
11:48	1/4	6 1/2	29.0	None	As above
11:58	1/4	7 1/2	30.0	None	Sursins between 7 1/2 & 1
00:00					
12:0B	1/4	1	21.0	None	As above
00:00 12:1B	1/4	1/2			
00:00	27 4	172			
12:25					Mud & Oil to surface-took out
00:00 00:00					chakes unloading hole-very highly
00:00					sas cut.
13:10					Closed tool
00:00					
13:55					Pulled off bottom.

Field # 1-34 Sec.34-T29N-R6W T.# 863 DST.# 2





NAME: Field #1-34 DATE: 25-03-82 LOCATION: Sec.34-T29N-R6W TK#: 863 DST#: Two O.D. I.D. LENGTH DEPTH INCHES INCHES FEET FEET Drill Pire 3.50 2.76 2881.00 Reverse sab 5.75 2.50 1.00 Water Cushion Value Drill Collars 2.50 2.25 505.00 Double Pin 6.00 2.25 .90 Sampler 5.00 .75 81.00 3395.00 Shut-in Tool Hydraulic Valve 5.00 .75 5.00 3400.00 BY Case 5.00 2.69 5.00 3402.00 216 5.00 1.00 5.00 Safety Joint 4.75 2.69 1.75 Equalization Adapter PACKER ASSEMBLY XL 1 6.75 1.50 3420.00 8.56 PACKER ASSEMBLY 2 Equalization Pipe Perforated Anchar 5.00 2.50 10.00 Adapter Blanted off BT Gause PACKER ASSEMBLY 3 PACKER ASSEMBLY 4 Perforated Anchor Side Wall Anchor

5.00

0.00

4.23

3431.00

3435,00

Drill Collars Drill Pipe

T.D.

Blanked Off BT Case

#2

46 4970

K-E SEMI-LOGARITHMIC +2 CYCLES X 10 DIVISIONS
KEUPFEL & ESSER CO. MARIN 11

WELL NAME & LOCATION :FIELD #1-34 SEC.34-T29N-R6W

EST'D RECOVERY DAMAGE REMOVED-- 264.43 BBL/DAY

10 =	TICKET# RECORDE : 60	863 DŠŤi R #: 10982 £	THO 17 3431	.00 FT.		Т =	: 192	:		
TIME	AL SHUT 10+211 217	-IN PSIG	KPA	PSIG^2	*	FIN	IAL SHUT ZXT TZX	_IN _T PS1	is KP	PSIG^2 10^B
0 6284 0	11.003 0035 0073 15.0073 0073 0073 0073 0073 0073 0073 0073	276.2 943.2 1016.3 1043.0 1058.3 1067.0 1070.4 1074.5 1076.3	1904 8503 7007 7191 7286 7356 7360 7409 7422 7427 7433	.076 .890 1.033 1.088 1.120 1.138 1.146 1.155 1.161	***	0621840625 1233445	33.00 17.00 17.67 9.00 7.40 6.33 5.57	262 938 1016 1042 1058 1058 1072 1073	4 180 645 700 1 718 3 729 2 735 1 739 9 740	9 .069 .880 7 1.033 5 1.086 6 1.120 1 1.137 1 1.149 4 1.153
					DAT	A				
	את מב	, INCREMENTO			LMI 1 T	AL :	H0114		FINAL SH	UT-1N
	NO OF SLOPE D EXTRAPO	, INCREMENTS— POINTS EXTRA F EXTRAPOLAT LATED PRESSI	POLATED ED LINE JRE		1092.	48 00	PSI		1096.0	3 1 0 PSI
F	RESERVOI	R PROPERTIES	3							
	INTERVA RESEVOI TOTAL F FINALFL GROUND RECORDE POROSIT D.C. RE D.P. RE	L	ξΕ 		262. 40 34 5	15 77 90 31 05 65	FEET FIN. PSI FT. FT. CFT. OF	GAS CUT GAS CUT	OIL BIL	
CA	ALCULAT I	ON RESULTS								
DAMAG	GE RATIO	≠ 5,	. 45	*#	IM	PER	IAL			
011	RECOVE TRANSMI AVERAGE INSITU RADIUS POTENTI PRODUCT TEST PR	RY SSIBILITY PERMABILITY CAPACITY OF INVESTIGA OMETRIC SURA IVITY INDEX- ODUCTION OIA	/ ATION ACE		165. 111. 165. 46. 1926.	42   03   45   02   66   652	1D-FT/CF 1D 1D-FT -T- 3BL/DAY- 3BL/DAY	-PSI		

COMPUTATIONS BY RHYASON CONSULTANTS PH: 265-6788

#### PHONES: .873-4211 Cur Bank - 873-2528 Havro 265-4402 Mobile 873-4702

BEFORE WORK IS COMMENCED THIS ORDER MUST BE SIGNED

1.10

## MONTANA ÖİL WELL CEMENTERS, INC. RADIO DISPATCHED UNITS

P.O. Box 226, Cut Bank, Montane 59427 (406) 873-4211 & Havre: (406) 265-4402

#### **ACIDIZING WORK ORDER & INVOICE**

Bemil to P.O. Box 226, Cut Bank, Montana 59427

12 376

HFE " 282-304-1223
District C.B. Date 4-29.82 P.O. NoTreatment Log. No. 265
District Ortion Onto alarm Tart
Company Oxy Petrology Tick Mail Invoice To 1999 17et 1st Denver Place
( )
Address Denver Coto 80202  Lease & Well No. Field 1-34 Job Started 800 DRM Job Completed 1000 DRM
Lease & Well No. Field 1-34 Job Started Completed 25 Johnston Comp
County Portlers State AsT Field W & Section 34 Township 29 Range 6 W
Type of Well: Workover   Exploratory   Development  Other: (write in)
Treatment No Zone _M_ticl. So.d Rotary & Cable Tool Air
Color Dana Cina (Color Dono)
Casing: New X Used Size 5/2 Weight 17 Depth 3480 Type
Perforations: From 3424 - 3428
Treated Perls.: From 3428 to 327
Tubing or Drill Pipe: Size 278 Weight 6.5 Total Depth 3317
Packer Briker Full Bore Retriable Packers Setal 3377
Previous Treatment None
Reg. Acid—Gais. 1000 411 15 50 He L
Truck 17 4 Mileage HO Transport Magage May 750 782 79
Treater 7. F. V Driver(s) F. R. C. C. C. C. C. C. C. C. C. C. C. C. C.
Additives In h. b. to e 100°
NON- ENINESION
I Ron Sequestering
TERMS: Cosh at time of sale—Net 30 days to approved credit accounts. After 30 days accounts will be charged 1%% per month service charge on unpaid balance. If necessary to resert to logal action to collect any account such account will be charged with all collection
CONDITIONS, WARRANTY AND RESPONSIBILITY: It is expressly understood and agreed that the above described and agreed the agreement and agreed the agreement agreement and agreement
ble avriacely understood that Montana Oil You Companies and accessory
antipment of part thereof, whether resuming from the negligeness of more
ployees. The entire warranty or guarantee and responsibility, either expressed or implied, by Montana Oil Well Cementers, Inc. is expressed above The entire warranty or guarantee and responsibility or employed directly or Indirectly by Montana Oil Well Cementers, Inc. has authority to and no agent, dealer or representative, connected the expression or guarantees and responsibilities expressed herein.
and no agent, dealer or representative, connected with or employee parameters and responsibilities expressed herein.
I have read, understand and accept the total contractor, that the above material has been used; that the basis for charges are correctly
to sign this order as agent of the ownst or contractor.  stated; and that I am authorized to sign this memorandum as agent of owner or contractor.

Oxy Parculau

Owner or Contractor

7.0					
Phones: 6873-4211	MONTANA	A OIL WEL	L CEMENTE	RS, INC. NO	30000
873-2628			Bank, Montana 59427	142	: · ·
265-4402 Mobile: 873-4702			R & INVOICE		
/ / /	BEFORE WORK I	S COMMENCE	D THIS ORDER N	MUST BE SIGNED	
Dinter Cut BAL	15 Date	.367182°	der No	Req. No	
COMPONIA PE	tedfum				··········
Contractor O-ELIEBA	al WEIJ SER	sie€ Riq*	<u> </u>		
Lease and Well No. FiE	1년 1-3년		Job	Stated DO (F) x	so comel: 40 PM
	ERA, MOUY.	Field	w <u>c</u>	Section 34 Two	Hangs
Mell Invoice To OX Y	Peyro,				,,,, <del></del>
Address 183 VIEW	1 / 3 SE . 24	09 Caspe	e kyo		
Type of Well:	Workeyer, 🗆	Explor	ratory, 🗆	Davelopment, A	Other 🗆
Type of Job: Sur.,	Inter,	Prod.	Squeeze 🗆	Pumping 🗀	P&AC
₽, 0, □	Other (Write In)				(4++++++++++++++++++++++++++++++++++++
\.	Uæd □	Sh. 5/2"	Weight 17.15	, Oepth 3487	Туре
Hole Data: Bors Size:	ייסור ד	Depth 34/85	Rotary di	Cable Tool	
Tubing Or Drill Pipa: Size	•				,
Cementing Packer: Size				Depth Set .	
Type Floot Equipment:	المحرر المسمو المرادر أرا	DIR! FIL	1 CollAR, 11		7 CEUT
Type more equipment.			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<b>-1</b> ′	friin in last in the state of t
		No. Sacks		231415	10 1/10 No Sacks
P & A Data: Plug No. 1 From	7-		Plug No. 5 → Fron		
,			Plug No. 6 - Fron	A'N 60	n 1982 📆
Plug No. 3 — From			Plug No. 7 — Fron	ion to	
Plug No. 3 — From			Plug No. 8 — Fron	Con City William	LOS MONTAL
_				C. C.	micron S
Others		Wt. Per Gel	Sarks	Type	MEDRICO DE
Coment Date: Bulk 40	SOCKED L. MINEU				
	out hile CEM	ENT 72	SX CLASS C	2' 145 PR3	<u> </u>
Admix 130sx M	out Lite CEM	ent 72	<u>osx Class (</u>		teed
Plugs & Heads: Top Plug .	out hite CEM 5/2" Type R.	SWER; BOTTON	PSX CIASS C	Туре Тур	to Head
Pluge & Heads: Top Plug . Pressure: Circulating	Mini	SWER; BOTTON	Paug	ТуреТур	oe Heed
Plugs & Heads: Top Plug .	Mini	SOUTH 72	Paug	Type Typ	Heed
Pluge & Heads: Top Plug Pressure: Circulating Displacement Detail Displacement Remarks: To you	pood with BB/S AC	Jent 72 SONER; BOTTON Jenny 80	Phug	Type Tyr	.30 <x< th=""></x<>
Pluge & Heads: Top Plug Pressure: Circulating Displacement Detar Displaceme	Mining Dio BBIS PA	Sout 72 DONER; BOTTON DO 1725h	Plug Barrella HO BBK HO	Type Tyr 2 Plug bock #1 2 ANEAD OF	752 \$ 136 \$x
Pluge & Heads: Top Plug	pood with BB/S AC	Sout 72 DONER; BOTTON DO 1725h	Plug Barrella HO BBK HO	Type Tyr 2 Plug bock #1 2 ANEAD OF	.30 <x< th=""></x<>
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Pressure: Circulating	Mining P. Mining Mining P. Mining Min	Phone (406) 873-421 WORK ORDE  O. Box 226, Cut	Plug  Meximum 700  Berreils  10 BBIS H  0 SX 770F  ER. Bump  11 or (406) 873-2628  R & INVOICE  Bank, Montana 594	Plug book # Property Plug book # Property Plug Book	752 \$ 136 \$x
Programme: Circulating Displacement Data Displacement Data Displacement Data Displacement Data Displacement Data Displacement Data Displacement Data Displacement Data Displacement Data Displacement Data Displacement Dis	Mining Page 10 P. Mining P	Phone (405) 873-421	Plug  Meximum 700  Berreils  10 BBIS H  0 SX 770F  ER. Bump  11 or (406) 873-2628  R & INVOICE  Bank, Montana 594	Plug book # P 2 Ahead of 1 2 Ahead of 1 2 Whom Lix Howkype	752 \$ 136 \$x
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Pluge & Heads: Top Plug Pressure: Circulating Displacement Data Displa Remarks: Tom One A. Ghd  One A.	Apple Sold	Phone (405) 873-421 WORK ORDE O. Box 226, Cut	Prug  Meximum 700  Berreits  10 88 K H  0 SX 17 NF ( ER. Bump  11 or (400) 673-2626  R & INVOICE  Bank, Montana 59	Plug book # Property Plug book # Property Plug Book	752 \$ 136 \$x
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Pressure: Circulating Displacement Detar Displacement Detar Displacement Detar Displacement Detar Displacement Detar Displacement Detar Displacement Detar Displacement Detar Displacement Detar Displacement District	Apple Sold Apple Sold	Phone (405) 873-421 WORK ORDE O. Box 226, Cut	D SX CIASS  Prug  Meximum 700  Berrielle  10 BBIS H3  0 SX 1-70F  ER. Burnelle  11 or (405) 873-2628  R & INVOICE  Bank, Montana 594  Job Starled	Phys beck at 2 Ah End of 2 Ah	752 \$ 136 \$x
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nterpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or extness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

ient Type:

elated to: Logged From Kelly Bushing Measurement.

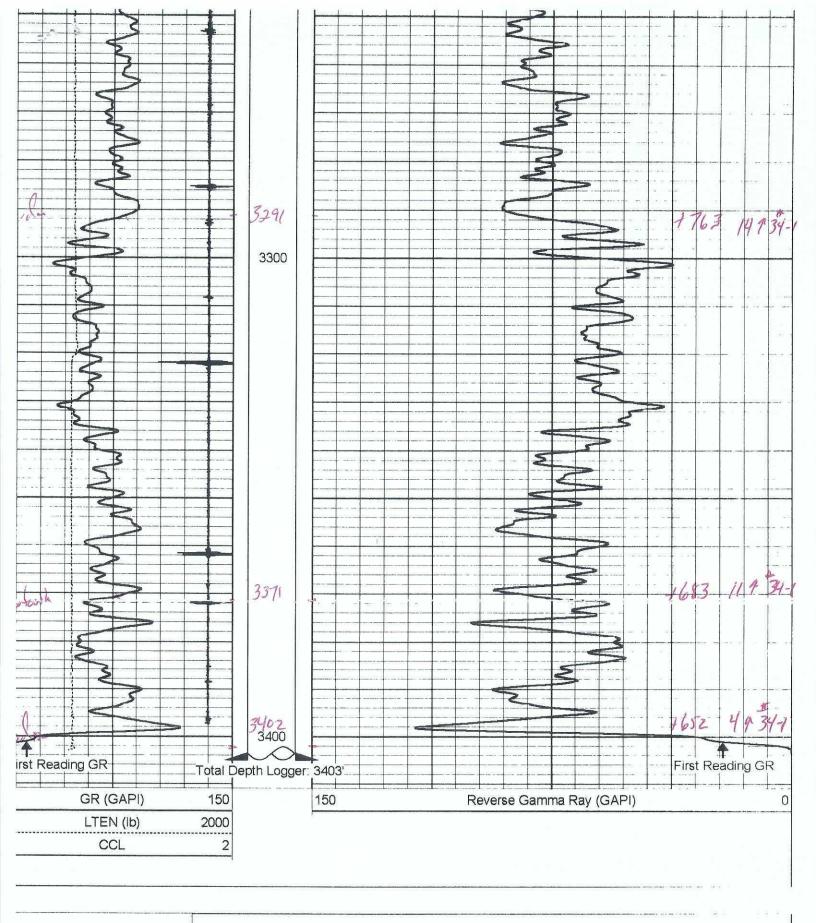
iarks:

THANK YOU FOR CHOOSING COMPETITION WIRELINE SERVICES.

YOUR CREW TODAY HAS BEEN: STARBUCK SEIFERT & AARON BROWN

MORTITIAN

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## Repeat Section

atabase File: ataset Pathname: 15637gr.db

#### OPERATIONAL SUMMARY

and

#### GEOLOGICAL WELL HISTORY

Altamont Oil and Gas Inc. Altamont/Jody Field No. 14-34 SESW Section 34-T29N-R6W (990' FSL – 1650'FWL) Glacier County, Montana API No. 25-073-21740

Wildcat

Patrick M. Montalban Petroleum Geologist P.O. Box 488 Cut Bank, Montana 59427

#### Resume

Spud Date:

August 27, 2008 August 30, 2008

Completion Date: Status:

Madison Sun River Dolomite "Wildcat

Oil Well Discovery"

Eleavtion:

4049'GR. 4054'KB.

Total Depth:

3415' Driller

Casing:

Ran 4 joints 7",17#/ft,ltd,8rd,ST&C,Rge 3 (164.0") set@161.0KB cemented with 50sx

Class G cement,3%Calcium Chloride

Ran 83 joints 4 1/2",9.5#/ft,8rd,ST&C,Rge 3

(3412') set @3405' KB cemented with

50 sx Class G

Contractor:

Sundance Exploration LLC Rig No.5 Ingersoll- Rand (Tophead Drive)

Type Rig:

Oilwell 214P (6" x 14")

Mud Pump:

Ingersoll- Rand (1250mmcf 350psi)

Air Compressor: Air Program:

Surface to 3415'

Mud Program:

None

Hole Size:

8 3/4" (0-165') 6 ½"(165' – 3415 ') 4 1/2" O.D. x 4" I.D. (16.60 #/ft.)

Size Drill Pipe:

4 <sup>3</sup>/<sub>4</sub>"O.D. x 2 1/8" I.D.(121')

Size Drill Collars: No. Drill Collars:

4 = 121

Sample Intervals:

None None

Sample Quality:

None

Cores:

None

Drill Stem Tests:

None

Air Drilling Summary
Drilled 3 7/8" hole with air mist from surface to 3415'.

#### Sample Distribution

None Required by the Montana Oil and Gas Conservation Commission, 2535 St. Johns Ave., Billings Montana in accordance with Rule No. 229

Logging Summary
No Logs Run.

#### Mud Summary None

				Bit Reco	<u>rd</u>			
No.	Size	Make	Type	Interval	Footage	Hours	Jet Size	Serial No.
		HTC	STX-20	0 - 77	77	3.00	open	ER8776
2	3 7/8"	HTC	ER-20	77-3415	3338	18.75	open	none

#### Daily Activity Summary (Calendar Days)

August 27,2008

Moved in and Rigged up Sundance Exploration LLC Rig No. 2. Spud 6 ¼" hole at 11:45A.M. Drilled 6 ¼" hole with air mist from 0' to 77' inside 7" surface casing. Drillled 3 7/8" hole with air mist inside the 4 ½" casing. Lower camera inside 7" casing. Trip tubing into the hole and place 2 gallons of 28% Hcl inside 4 ½" casing. Lower camera inside 7" casing and concluded 4 ½" casing to be clean.

August 28,2008

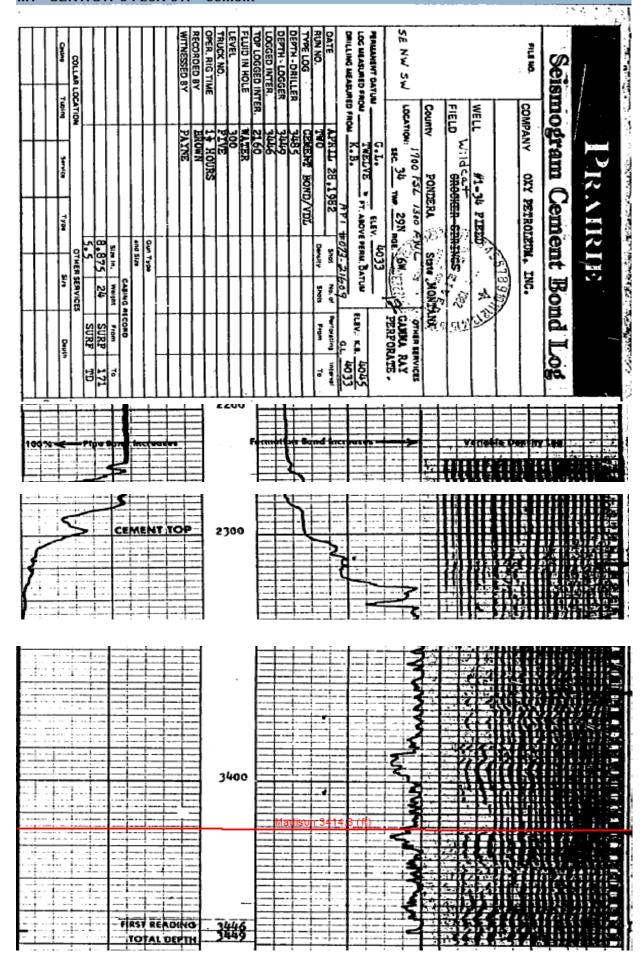
T.D. 77'. Load 4 ½" casing. Unload and strap 4 ½" casing. unload 2 3/8" tubing. Rig up 7" x 4 ½" wellhead. Trip In 4 ½" casing and sting into casing. Pulled 5000#/s on 4 ½" casing and set in slips. Nipple up diverter head. Drilled 3 7/8" hole with air mist from 77' to 2400'.

August 29,2008

Drilled 3 7/8" hole with air mist from 2400' to 3415'. Total Depth 3415' by operator. Repair rig.

August 30,2008

T.D. 3415. Start and warm rig. Blow well down and recovered highly oil cut water. Set tubing in slips. Rigged down. Report Ends.



LOCATE WELL CORRECTLY

34 0

### (SUBMIT IN TRIPLICATE) TO

## BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA BILLINGS OR SHELBY

## ARM 36.22.307 ARM 36.22.1011 ARM 36.22.1013

#### COMPLETION REPORT

Company A	ALTAMONT	OIL & GAS,	INC	Leas	eFIEI	LD		We	ell No. 14-34
AddressP	0 вох 48	88 - CUT BA	NK MT	59427	Fi	eld (or	Area) WI	LDCAT	
The well is	located_9	90' ft. fro	斌 n (S) lin	e and 165	0'_ft. fi	XEX rom (W)	line of Sec	34	
Sec. 34	·T 29	)N : R. 6	₩: Co1	untyPO	NDERA			_; Elevation	4049 GL (D.F., R.B. or G.L.)
							*		
Commence	d drilling_	August 27	, 2008	, K	MA_; CO	mpiete	n Augu	7 1	, <b>x9</b> X
Write the A	PI# or the	e well name	of anoth	er well on	this lea	se ii on	efthorus!! T	he cummary	on this page is for
The info	ormation g on of the v	given herewit well at the ab	h is a cor ove date	mplete and e.	correct	record	of the well. I	The summary	on this page is for
Completed	as OII	WELL			Signe	d	Raddel ICK M. MON	PAT DAN	
API#25- C	(oil well,	gas well, dry noie			Title	PRES	IDENT & CE	O CALBAN	
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					Date .	SEPTI	EMBER 14,	2009	
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From	to				. From.		to		
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Size	Weight	_		Casin	r Cot	From	То	Sack of Cement	Cut and Pulled from
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4-1/2	9.5#/1	ft API	ST&C	340	5' KB	161'	3405'	50 Sacks	3% CaC1 Class G Cement
				TUBIN	G RECO	RD			
	Size Tubin		ght Ft.	Grade	Thre	ad	Amount	Perforations	
	2-3/8			J55	ST&C		108 jts	None	
				COMPLE	TION RE	CORD			
Rotary tool	s were us	ed from	0				to3,	415	
Cable tools	were use	d from					to		to 3,415'
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Inter		Number ar	nd	Inte	rval		Amount of		
From	То	Size and Ty	<b>/ре</b>	From	То		Material Use	<u> </u>	Pressure
		None					None		
						-			
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<b>I.P.</b> 5	ba	arrels of oil p	er	24 ho	ours	· · · · · ·	or flowing)		
		1000 MATERIA				(pumping	or nowing)		
X <del>XXX</del>	_Mcf of gas pe	erho		s of water per_	24	_hours, or	r%	w.C.	

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#### Tops based on Kelly Busing Elevation 4054' KB:

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+1700
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+ 639
+2192 +2043 +1935 +1700 +1656 +1533 +1490 + 975 + 938 + 890 + 817 + 763 + 683 + 652

Prepared by

Ramboll US Consulting

Denver, Colorado

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Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

## Attachment B Geological and Geophysical Information

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#### **EXHIBITS**

- Exhibit A. Water Quality Analyses
- Exhibit B. Well Reports, Jody Field Wells 34-1 and 34-2

#### 1. GEOLOGY

The Madison Aquifer is part of the Northern Great Plains aquifer system, which extends across Montana, Wyoming, North Dakota, and South Dakota and lies beneath confining units in the proposed Underground Injection Control (UIC) area (**Figure 01**) (USGS, 1996). The Madison Aquifer in this area is comprised of the Mississippian Madison Limestone, which includes the Lodgepole Limestone, overlain by the Mission Canyon Limestone. The formations consist of marine carbonates and evaporites deposited in a shallow water environment (Downey, 1984). The Lodgepole Limestone consists mainly of fossiliferous to micritic dolomite and limestone units. The Mission Canyon Limestone consists of a coarsely crystalline limestone at its base, grading upward to finer crystalline limestone. The thickness of the Madison Limestone in northwestern Montana is mapped at approximately 1,000 to 1,200 feet as illustrated on **Figure 02** (Downey, 1984).

The Class II UIC wells (Jody Field wells 34-1 and 34-2) are completed within the Sun River Dolomite, the uppermost section of the Madison formation. The Sun River Dolomite ranges up to an average of approximately 200 feet thick in this area with the Mission Canyon and Lodgepole extending approximately 1,000 feet in thickness beneath that (Pasternack, 1988). A cross section was prepared based on well data gathered from BOGC records (**Figures 03 and 04**). As indicated in the cross section, the Sun River Dolomite, in close proximity to the proposed Class V UIC wells, is approximately 250 feet thick. The thickest injection interval in the existing Class II UIC wells is 90 feet thick.

The Sun River Dolomite has been studied extensively for its hydrocarbon production potential and has been determined to have an average porosity of 8 to 14% and average permeability of 10 to 82 millidarcy (md) with the highest values observed in the Pondera Field. **Figure 05** indicates the porosity values mapped in the Pondera field and surrounding areas. According to Pasternack (1988), two dominant porosity types are within the Sun River Dolomite: moldic porosity in discreet areas developed from dissolution of bioclastic debris and fracture porosity, which is evident throughout all areas of the Sun River Dolomite. Bioclastic debris is deposited as shallow marine bars oriented northwest-southeast. As indicated on **Figure 05**, the Jody Field wells are located within a bioclastic debris trend that intersects the Pondera and Highview Fields and have a bioclastic debris composition greater than 20%, inferring a high percentage of moldic porosity. The Class II Aquifer Exemptions established for this area by the Montana DOGC are based on a porosity in the range of 14% (Telephone conversation with George Hudak, July 2022) and confirmed in regional well logs.

## 2. UNDERGROUND SOURCES OF DRINKING WATER (USDWS) AND CONFINING ZONES

The Madison Aquifer is bounded by confining layers that separate it from the Lower Paleozoic and Lower Cretaceous aquifers (**Figure 06**).

The Madison Limestone is overlain by the unconforming confining units of the Jurassic Ellis Group, which consists of the Swift, Rierdon and Sawtooth (Piper) formations. The Ellis Group forms a confining layer between the Mississippian and lower Cretaceous aquifers and is present above the Madison Sun River Dolomite as indicated in the UIC wellbore schematics for Jody Field Wells 34-1 and 34-2 (**Figures 07 and 08**).

According to USGS (2022), The Sawtooth formation in Western Montana consists of dark gray, platy to shaly, dense limestone with a local basal conglomerate. The Rierdon Formation includes gray, locally fossiliferous limestone that may contain quartz sand interbedded with greenish gray limy shale. The Swift Formation includes glauconitic, flaggy-bedded, commonly fossiliferous, fine-grained sandstone or sand coquina with dark gray shale interbeds. A dark gray, noncalcareous, micaceous shale forms the lower part of the formation, commonly with a basal chert pebble conglomerate or conglomeratic sandstone. Based on review of local well logs, the total thickness of the confining units within the Ellis group is over 220 feet.

Logs reviewed from oil and gas wells in the region indicate that the Sun River Dolomite ranges up to as much as 300 feet thick beneath the Ellis Group. Review of well logs from two nearby wells drilled deeper into the Madison indicate the presence of a dense, cherty unit with a minimum thickness of 108 feet to 147 feet directly beneath the Sun River Dolomite (API #25-073-05457 and API #25-073-05439). According to the well logs, this unit was documented to have low to no porosity.

The confining units beneath the Mississipian Madison Formation include Silurian and Devonian units consisting mainly of shaly carbonates, shale, and evaporites (**Figure 09**). Because of the fine-grained lithology and the presence of evaporites in the Silurian and Devonian units, these formations are considered to be confining beds between the Mississippian aquifer and the underlying Cambrian-Ordovician aquifer (Downey, 1984). Hydrologic modeling results of Downey (1984, 1986) indicate that vertical hydraulic conductivity between the Cambrian-Ordovician and Madison aquifers is less than 10-6 ft/d throughout the study area.

The Devonian Duperow formation, which is separated from the Madison Aquifer by the Three Forks, Potlatch and Nisku formations, has recently been classified as an underground source of drinking water (USDW) in central Montana due to intervals of total dissolved solids (TDS) concentrations less than 10,000 mg/L and greater than 3,000 mg/L. The thickness of the confining layer (Three Forks formation) in the proposed UIC area between the Madison and underlying Duperow aquifer is approximately 200 feet (Pasternack, 1988). Based on local well logs, the thickness of the Duperow Aquifer east of the UIC permit boundary is greater than 700 feet (**Figure 04**).

The proposed Class V UIC Wells are located in Pondera County, which measures 1,640 square miles and is located approximately 90 miles northwest of Great Falls, the third largest city in Montana with a population of 58,700 (**Figure 10**). The population of Pondera County has declined steadily over the past several decades and in 2022 had declined from 6,044 to 5,764 (Data USA, 2022). Agricultural production employed 45% of the County's labor force in 2017, and agricultural land accounted for 25% of the county's tax base (Montana State University, 2022). The median household income in 2020 was \$30,464 (Wikipedia, 2022).

The local population is served by nine (9) small water systems that draw from shallow groundwater wells and local reservoirs, as well as privately owned shallow water wells. The Madison Aquifer is not currently used as a drinking water supply in the proposed UIC area. Most of the shallow Quaternary aquifers are comprised of unconsolidated alluvial deposits derived from the surrounding mountains (Noble, 1982b). According to Noble (1982b), these aquifers are primarily water-table aquifers and groundwater movement follows the topography in a downstream direction. Recharge to the shallow alluvial aquifers is primarily through rainfall and snowmelt. Deeper Tertiary aquifers in the area range from depths of 100 to 300 feet and include coarse grained interbedded sandstones, channel conglomerates, tuffs and siltstones (Noble, 1982b). Alluvial aquifers are the most used aquifers in the Great Plains region of Montana, due to their high yields and proximity to agricultural land (Noble, 1982a).

Details regarding the USDWs and Confining Units in the Area of Review (AoR) are provided in Table 1 below.

TABLE 1. USDWs in the AoR						
Formation	USDW or Confining Zone	Lithology	Thickness	Depth	TDS Concentrations	
Quaternary and Tertiary Aquifers	USDW	Quaternary unconsolidated aquifers include alluvium, colluvium terrace deposits, eolian deposits, glacial deposits, high level gravels, and deeply weathered surface of some sandstone formations/Tertiary aquifers include coarse grained interbedded sandstones, channel conglomerates, tuffs and siltstones	Quaternary up to 200 ft/Tertiary <1,500 ft	Deeper Tertiary aquifers in the area range from depths of 100 to 300 feet	<3,000 mg/L in Quaternary Deposits and 500 mg/L to >5,000 mg/L in the lower Tertiary Deposits; The Fort Union Section has TDS concentrations ranging from <200 to >9,500 mg/L	
Upper Cretaceous Aquifer -Hell Creek Formation and Montana Group (Fox Hills Sandstone)	USDW	Sandstone	Fox Hills approx. 300 ft, Hell Creek 500 to 1,100 ft	Approx. 300 ft to 1,800 ft	107 to 4,400 mg/L	
Upper and Lower Cretaceous - Colorado Group (Colorado, Greenhorn, Blackleaf, Bow Island Formations)	Confining Zone	Mudstone-shale and Volcaniclastic	Approx. 750 ft	Approx. 1,800 ft	NA	

TABLE 1.	<b>USDWs</b> i	n the AoR
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USDW or					TDS
Formation	Confining Zone	Lithology	Thickness	Depth	Concentrations
Lower Cretaceous Aquifer - Dakota Sandstone, Kootenai Formation (Sunburst)	USDW	Sandstone	Approx. 500-700 ft	Approx. 2500 ft	Ranges depending on location – observed at 7,000 to 12,000 mg/L (Well MT51141- 07750)
Jurassic Ellis Group (Morrison, Swift, Rierdon, Sawtooth)	Confining Zone	Dense shale, silty shale and siltstone	>220 ft	Approx. 3200 ft	NA
Mississippian Madison Aquifer	USDW	Sun River Dolomite with good porosity underlain by dense, cherty upper section of Mission Canyon Limestone. Lower Mission Canyon and Lodgepole have intermittent dense, tight sections, interbedded with more transmissive units.	Sun River Dolomite: approx. 250 ft, underlain by a dense cherty unit of the Mission Canyon, approx. 108-147 ft thick	Approx. 3440 ft	5,440 mg/L (API # 25-073-21740)
Devonian Three Forks Formation (Devonian)	Confining Zone	Dense, tight limestone and shale (approx. 60 ft underlain by interbedded shale and anhydrite)	Up to 200 ft	Approx. 3800 ft to 4190 ft	NA
Devonian Duperow Aquifer	USDW	Dense, tight crypto to microcrystalline dolomite with poor to fair porosity	>700 ft	Approx. 4,500 ft	9,470 to 13,800 mg/L (API # 25-073-21523)

#### 3. WATER QUALITY

The primary minerals within the Madison Limestone include calcite, dolomite, and anhydrite, with dissolution of anhydrite and dolomite largely contributing to the water quality throughout the aquifer (Busby, 1991). The presence of hydrogen sulfide odor in the wells analyzed by the USGS was also noted during sampling and was determined to be due in part to a terrigenous source of sulfur, which has been noted in the proposed UIC area (Telephone conversation with George Hudak, July 2022).

Due to the presence of anhydrites, the TDS concentrations in the Madison Aquifer vary greatly from less than 1,000 mg/L to greater than 300,000 mg/L, depending on the location within the formation and groundwater flow characteristics (Downey, 1984). According to George Hudak, UIC

Coordinator, Montana BOGC, the TDS concentration in the proposed UIC area ranges above 5,000 mg/L.

The Montana Bureau of Mines and Geology mapped TDS concentrations in the immediate surrounding areas. The data were collected from oil tests or production wells between 1920 and 1977 and indicated TDS concentrations in the Sun River Dolomite ranging from around 4,490 to 6,660 mg/L and TDS concentrations in the Madison Formation ranging from around 3,240 to 7,100 mg/L (Feltis, 1980b). A water sample collected from Well 14-34 (API #25-073-21740), which is centrally located within the UIC area, indicated a TDS concentration of 5,440 mg/L (Exhibit A). A water sample collected from Well 4-1 (API#25-073-21824) indicated a calculated TDS concentration of 5,109 mg/L (Exhibit A).

Details regarding water quality in the known USDWs in the AoR are summarized in Table 1. Regional groundwater flow direction through the southern and eastern portion of the Madison Aquifer is northeastward (USGS, 1996). A potentiometric surface map generated by the Montana Bureau of Mines and Geology based on local oil and gas well data indicates a northward groundwater flow direction in the vicinity of the UIC wells (Feltis, 1980a). The proposed UIC area is located on the western edge of the Great Plains, west of the Sweetgrass Arch and east of the Intermountain Seismic Belt. **Figure 11** indicates that the proposed UIC area is located several miles east of mapped faults in an area with low earthquake risk. No mapped or known faults lie within the AoR. Depth to basement from the base of the Sun River Dolomite is estimated to be over 2,000 feet (Figure 04).

#### 4. FORMATION DATA

Well records for the Jody Field wells (Exhibit B) indicate that the bottom hole fluid pressure is 1,096 psi with a temperature of 77° F. Fracture pressures are included in the workover reports provided in Exhibit B.

Formation fluid water quality data was collected within the proposed area-wide UIC permit boundary during drilling of Well No. 4-1 in 2007. The formation fluid was reported to have a pH of 7.5, specific gravity of 1.007, a measured conductivity of 8,480 µmhos/cm and a calculated TDS concentration of 5,109 mg/L. The water analysis report for Well 4-1 is included in Exhibit A.

The injection zones are completed within the Sun River Dolomite, the uppermost section of the Mississippian Madison Formation. As discussed in Section 1 (Geology), the Sun River Dolomite within the area-wide UIC permit boundary appears to have a bioclastic debris composition greater than 20%, resulting in a porosity in the range of 14% which is consistent with field observations. The receiving formation is composed predominantly of a vugular dolomite  $(CaMg(CO_3)_2)$  with locally interbedded anhydrites  $(CaSO_4)$ . The dolomite is typically associated with minor quantities of goethite (FeOOH), hematite (Fe<sub>2</sub>O<sub>3</sub>), and quartz (SiO<sub>2</sub>) (Busby,1991).

#### 5. REFERENCES

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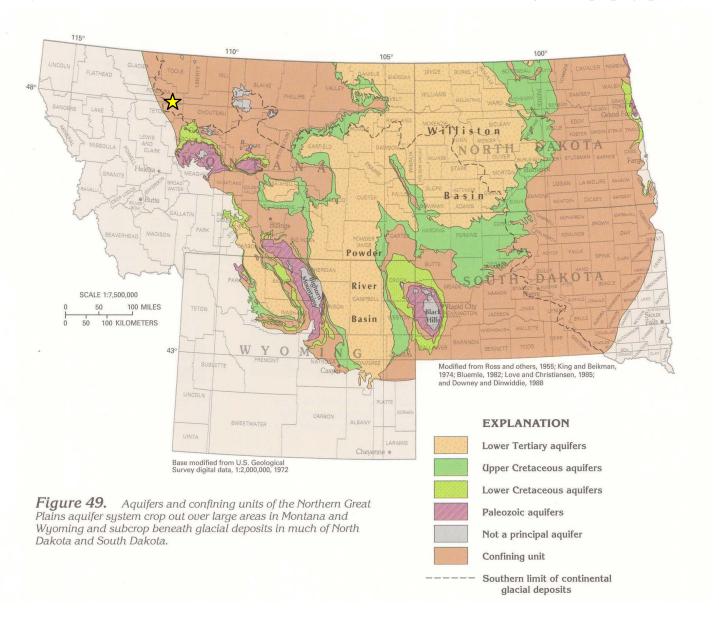
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#### **FIGURES**

- Figure 01. Aquifers and Confining Units of the Norther Great Plains Aquifer System
- Figure 02. Northern Great Plains Aquifer System, Madison Formation Thickness
- Figure 03. Geologic Cross Section Location
- Figure 04. Geologic Cross Section
- Figure 05. Sun River Dolomite Porosity Isopach Map
- Figure 06. Northern Great Plains Aquifer System Stratigraphic Column
- Figure 07. Jody Field 34-1 Well Schematic
- Figure 08. Jody field 34-2 Well Schematic
- Figure 09. Thickness of underlying Devonian Confining Layer
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Geohydrology of the Madison and Associated Aquifers in Parts 🙀 Approximate Site Location of Montana, North Dakota, South Dakota, and Wyoming

**AQUIFERS AND CONFINING UNITS OF THE NORTHERN GREAT PLAINS AQUIFER SYSTEM** 

> **MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE UIC APPLICATION JODY FIELD WELLS**

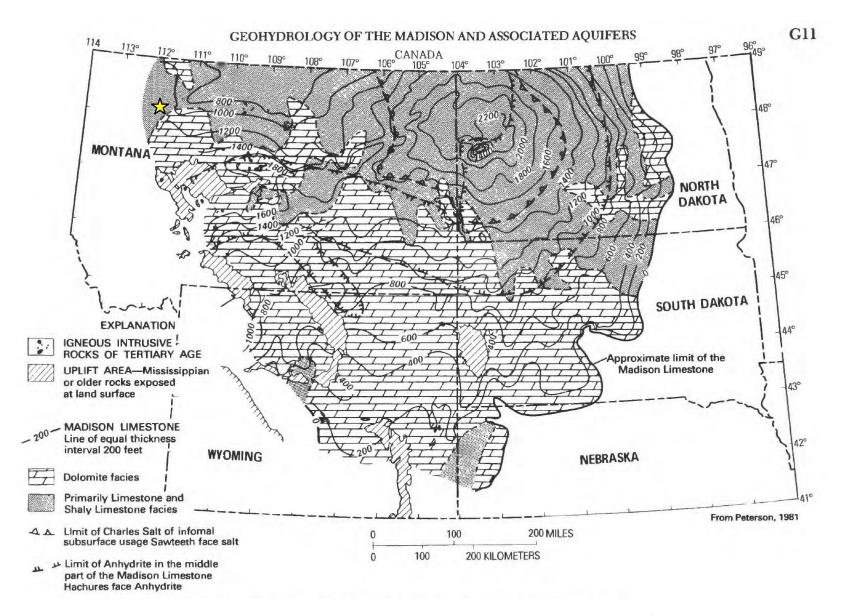
**Attachment B** FIGURE 01

RAMBOLL US CONSULTING, INC. A RAMBOLL COMPANY



By Joe S. Downey

Geology and Hydrology of the Madison Limestone and Associated Rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming



Geography of the Madison and Associated Aquifers in Parts of Approximate Site Location Montana, North Dakota, South Dakota, and Wyoming

**NORTHERN GREAT PLAINS AQUIFER SYSTEM - MADISON FORMATION THICKNESS** 

By Joe S. Downey

Geology and Hydrology of the Madison Limestone and Associated Rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming

**MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE UIC APPLICATION JODY FIELD WELLS** 

#### **Attachment B** FIGURE 02

RAMBOLL US CONSULTING, INC. A RAMBOLL COMPANY





#### Well Location

- Active Injection
- P&A Approved
- Shut In
- Dry Hole
- Oil

#### GEOLOGIC CROSS SECTION LOCATION

Cross Section

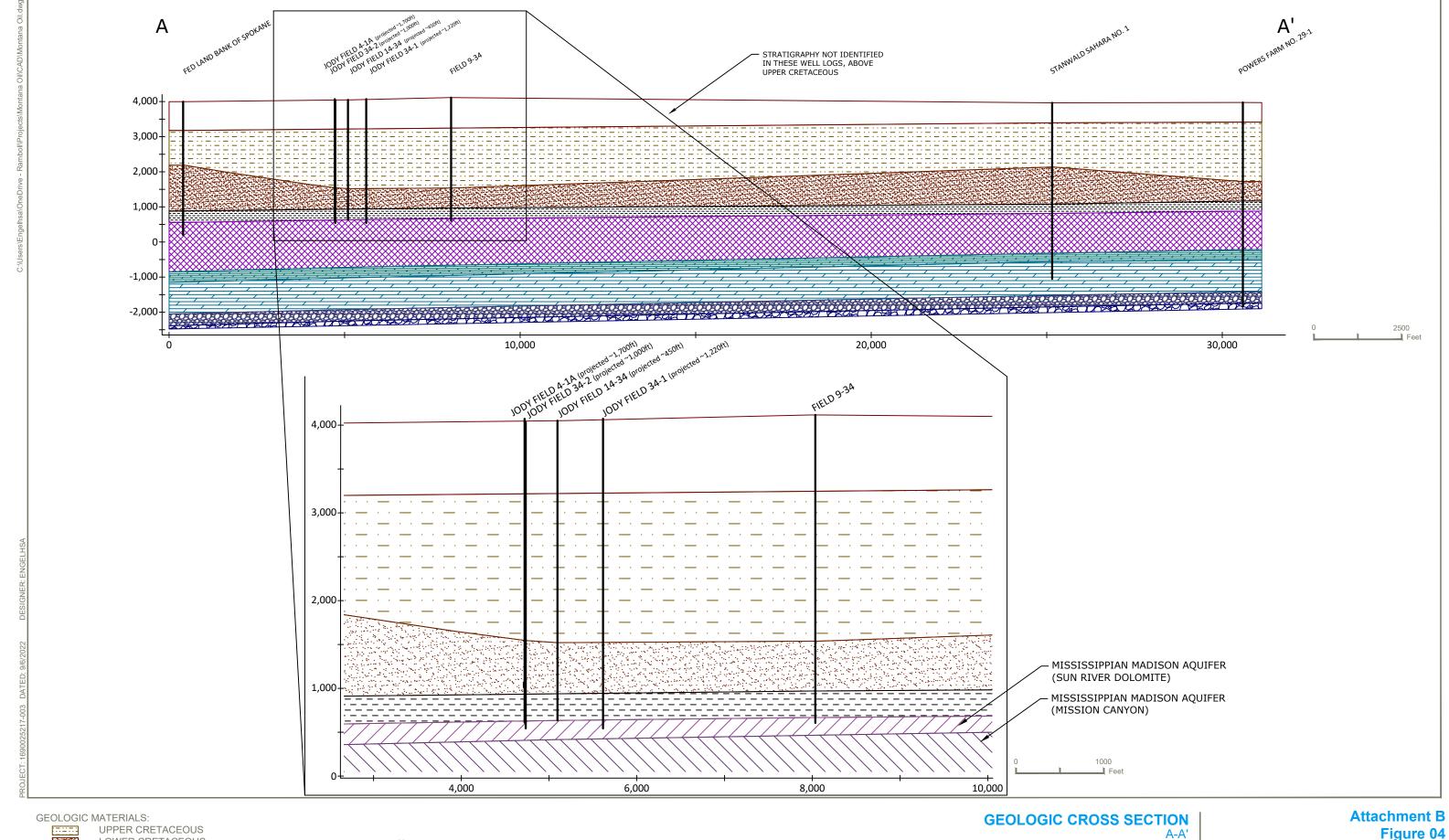
Area-Wide UIC

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS

## Attachment B Figure 03

RAMBOLL US CONSULTING, INC. A RAMBOLL COMPANY





LOWER CRETACEOUS JURASSIC ELLIS GROUP MISSISSIPPIAN MADISON AQUIFER DEVONIAN - THREE FORKS FORMATION DEVONIAN - DUPEROW AQUIFER CAMBRIAN PRE-CAMBRIAN

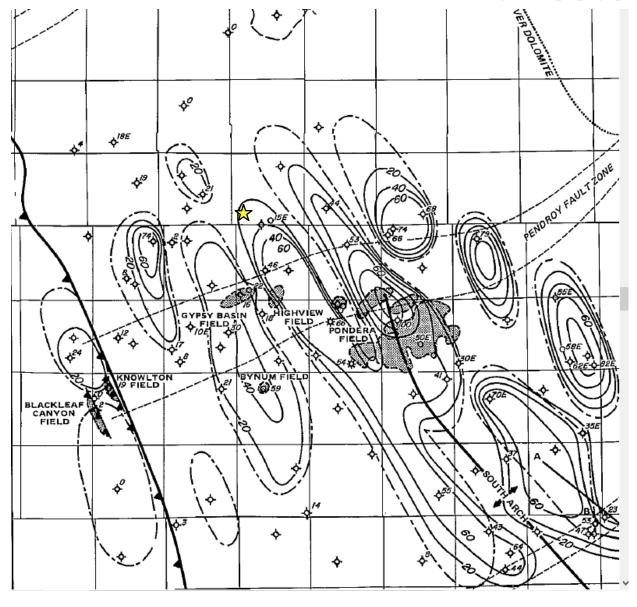
- 1. 1X Vertical Exaggeration
- 2. Stratigraphy interpolated and extrapolated from well logs within ~2,000ft of cross section line A-A'; using 3D visualization software, Earth Volumetric
- 3. Some wells are projected to the cross section line, projection distance is as identified on this figure (behind well name).

MONTALBAN OIL AND GASOPERATIONS INC AREA WIDE AQUIFER EXEMPTION APPLICATION

JODY FIELD WELLS

## Figure 04





Pasternack, Ira, Nature and Distribution of Mississippian Sun River Dolomite Porosity, West Flan of the Sweetgrass Arch, Northwestern Montana, August 16, 1988



SUN RIVER DOLOMITE POROSITY ISOPACH MAP

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE UIC APPLICATION JODY FIELD WELLS

## Attachment B FIGURE 05



					Stratigrap			Hydrologi	C II				
Era		stem, Series, her subdivisio			er River Basin ng and Montana)	(Monta	ston Basin na, North Dakota, South Dakota)	R	ASA study <sup>5</sup>		nis report	Principal lithology	
_		Quaternary		Δ	lluvium	Alluviu	um and glacial						
					- Contraction		deposits						
		Pliocene	Upper						Not included in aquifer	Not included in aquifer			
ZOIC		Miocene	J.						system		system		
Ceno	Tertiary	Oligocene	er	White R	iver Formation		White River Formation or Group						
		Eocene	Lower	Wasat	ch Formation				Upper		Lower Tertiary	Sandstone, some siltstone	
		Paleocene		Fort Un	ion Formation	Fort Union	Formation or Group		Cretaceous		aquifers	Sandstone, some coal	
				Lanc	e Formation	Hell C	Creek Formation	1	aquifer	1	Upper Cretaceous	Sandstone, some claystone, siltstone	
				Fox Hi	lls Sandstone	Fox I	Hills Sandstone			aquifers	and coal		
					vis Shale								
					erde Formation	P	Pierre Shale						
			Upper	5.745	ele Shale	Niob	rara Formation					Shale, some chalk,	
			J	Co	dy Shale 1		arlile Shale		Confining layer		Confining unit	some bentonite. Minor sandstone	
MISSOZOIG WISSOZOIG CEUDZOIG	, 1	Cretaceous		Fronti	er Formation	Greenhorn Formation Belle Fourche Shale			iayo.				
0				Me	owry Shale	Mowry Shale			7			Shale	
070					Muddy Sandstone		Newcastle/Dakota Sandstone 2					Sandstone	
SAI.				Therm	opolis Shale	Sku	II Creek Shale		Lower		Lower	Shale	
<			Lower	Laconer	Fall River	L.	Fall River Sandstone		Cretaceous		Cretaceous	Condition Minimum	
			Lo	Inyan Kara	Formation	Inyan Kara	Fuson Formation	8	aquifer	=	aquifers	Sandstone. Minor conglomerate and	
				Group	akota Formation	Group	Lakota Formation	system		system		silty shale	
					on Formation	Morris	son Formation	sy		sy		Obstance de l'Installation	
				IVIOITIO	on ronnation		t Formation 3/	-		1		Shale and silty shale with interbedded	
		Jurassic		Sundar	ce Formation3		n Formation 3/	aquifer		aquifer		sandstone	
				Gypsum S	Spring Formation		Formation 3	ad	Confining	aq		Shale and limestone	
		Triassic			ater Formation	100 8 10			layer	-			
				Goose	gg Formation		rfish Formation	Plains		Plains		Shale and siltstone	
		Permian		Goode Egg Formation			kahta Limestone	4		ā	Confining unit		
					Access of the last	Opec	he Formation	+		+	unc		
		Pennsylvanian		Tensleep Sandston	Minnelusa 4/ e Formation	Amsden Formation	Minnelusa 4 Formation	Great	Pennsylvanian aquifer system	Great		Interbedded sandstone, shale and carbonate rocks. Minor anhydrite	
		Tomoyivaman		Amsd	en Formation	Tyler Formation	Torribation	Northern	system			Shale and sandstone	
						Big Snowy Group		Non	Confining layer	Northern		Shale with some sandstone	
							Charles Formation				Unnas 6/		
		Mississippian		Madia	on Limestone	Madison	Mission Canyon		Mississippian		Upper 6/ Paleozoic	Limestone, dolomite,	
O				iviadis	on Limestone	Group	Limestone		aquifer		aquifers	and minor anhydrite	
1020							Lodgepole Limestone						
alec				Daub	y Formation	Bakk	en Formation					Shale and siltstone	
1				and	equivalents							01 1 1 1 1	
		Devonian					Forks Formation through ern Formation		Confining layer		Confining unit	Shale, shaly limestone, some evaporite beds and salt	
		Silurian				Interla	ke Formation					Shaly limestone	
				Diahaa	Whitewood		wall Formation					Limestone, shaly limest	
				Bighorn Dolomite			iver Formation					Limestone and dolomite	
		Ordovician		Ordovician		ned liver rolliadon			Cambrian-		Lower 6	Shale, sandstone, and shaly limestone	
								-	Ordovician aquifer		Paleozoic aquifers		
				Gallat	in Limestone				aquirer		aquiters	Sandstone, dolomitic lin	
		Cambrian			ntre Formation	Deady	wood Formation					stone, and shale	
	Cambrian		Cambrian Flathead Sandstone								Sandstone		

Locally extends into Upper Cretaceous
 Included in Lower Cretaceous aquifers of this report, where permeable
 Included in Upper Paleozolic aquifers of this report, where permeable
 Included in Upper Paleozolic aquifers of this report, where permeable
 Not differentiated in figure 49

**Figure 50.** Numerous geologic units are part of the Northern Great Plains aquifer system, but only beds of sandstone and carbonate rocks form aquifers. The gray areas represent missing rocks.

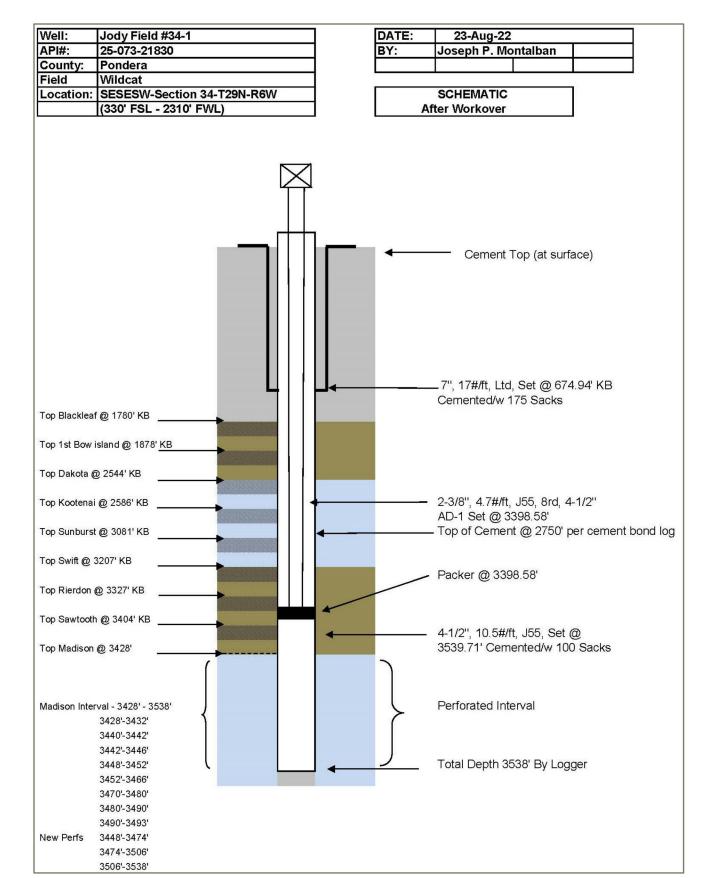
Ground Water Atlas of the United States, Montana, North Dakota, South Dakota, Wyoming HA 730-I

#### **NORTHERN GREAT PLAINS AQUIFER SYSTEM -STRATIGRAPHIC COLUMN**

**MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE UIC APPLICATION JODY FIELD WELLS** 

## **Attachment B** Figure 06





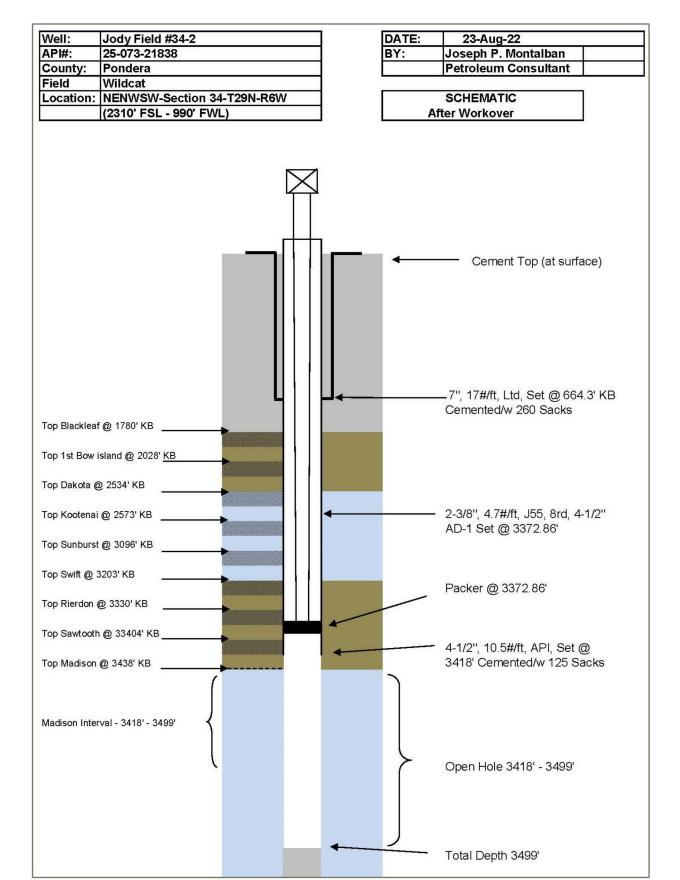


#### WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-1

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS

## Attachment B Figure 07







## WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-2

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS





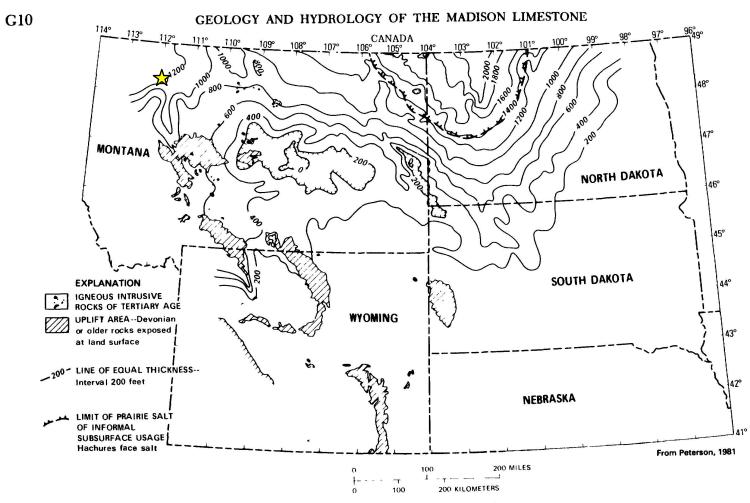


FIGURE 9. - Thickness of Devonian rocks.

Geohydrology of the Madison and Associated Aquifers in Parts 🖈 Approximate Site Location of Montana, North Dakota, South Dakota, and Wyoming

By Joe S. Downey

Geology and Hydrology of the Madison Limestone and Associated Rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming

## THICKNESS OF UNDERLYING DEVONIAN CONFINING LAYER

MONTALBAN OIL AND GAS
OPERATIONS INC - AREA WIDE UIC
APPLICATION
JODY FIELD WELLS

## Attachment B FIGURE 09



## CountyLines 0 - 1,000 people per sq mi 1,000 - 8,400 people per sq mi 8,400 - 15,800 people per sq mi 15,800 - 24,000 people per sq mi 24,000 - 629,000 people per sq mi KEY MAP (not to scale)

**MONTALBAN OIL AND GAS** OPERATIONS INC - AREA WIDE UIC APPLICATION **JODY FIELD WELLS** 



## **Attachment B** Figure 10



KEY MAP (not to scale)

## **Privileged and Confidential**

## **EXHIBIT A**

Water Quality Analyses

## ANALYTICAL SUMMARY REPORT

December 05, 2007

Patrick Montalban

Altame on Oil & Gas Inc

PO B 0×488

Cutbank MT 59427

Workorder No.: B07120154

Project Name: Altamont Jody Fields

Energy laboratories Inc received the following 1 sample from Altamont Oil & Gas Inc on 12/4/2007 for analysis.

Samp lelD

Client Sample ID

Collect Date Receive Date

Matrix

Test

B07120154-001 #4 - 1 Well

12/03/07 12:00 12/04/07

Aqueous

Conductivity

Resistivity

Salinity

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except ifnoted in report comments or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By

#### LABORATORY ANALYTICAL REPORT

Clie nt

Altamont Oil & Gas Inc

Project:

Altamont Jody Fields

Lab ID

B07120154-001

Clie ntSample ID: #4 - 1 Well

Report Date: 12/05/07

Collection Date: 12/03/07 12:00

DateReceived: 12/04/07

Matrix: Aqueous

Anal ys:s	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES	1111				TO THE STREET OF THE STREET		
Salira ity	4.69			0.10		Calculation	12/05/07 08:36 / klc
Conductivity	8480	umhos/cm		1		A2510 B	12/04/07 12:01 / kh
Resistivity @ 68 F	1.18	ohm-m		0.04		E120.1	12/05/07 14:45 / klc



## QA/QC Summary Report

Client:

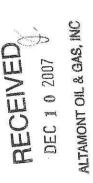
Altamont Oil & Gas Inc

Projec 1: Altamont Jody Fields

Report Date: 12/05/07

Work Order: B07120154

Analyte	Result Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B							Batch: PHSC	071204
Sample ID: PHC1070910A Conductivity	Laboratory Control Sample 157 umhos/cm	1.0	103	Run: ORIC	0N555A_071204A 110		12/04	·/O7 08:58
Sample ID: PHC1070810A Conductivity	Laboratory Control Sample 5120 umhos/cm	1.0	102	Run: ORIC	N555A_071204A 110		12/04	-/07 08:59
Sample I0: B07120150-001ADUP Conductivity	Sample Duplicate 907 umhos/cm	1.0		Run: ORIC	N555A_071204A	0.5	12/04 10	/07 11:57



## ENERGY LABORA TORIES

# Energy Laboratories Inc Workorder Receipt Checklist

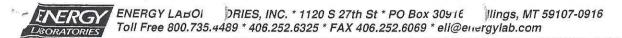
## Altamont Oil and Gas Inc

B07120154

Login completed by: Eric L. Frank Reviewed by: Staci Fread			Received: 12/4/2007 ceived by: elf	9:15 AM	
R eviewed Date: 12/4/2007 8:02:40 PM			rier name: UPS NDA		
Shipping container/cooler in good condition?	Yes 🗹	No 🔲	Not Present		
Custody seals intact on shipping container/cooler?	Yes	No 🗌	Not Present 🗸		
Cuslody seals intact on sample bottles?	Yes	No 🗌	Not Present 🗸		<i>\$</i> 5
Chain of custody present?	Yes	No 🗹		-	
Chain of custody signed when relinquished and received?	Yes	No 🗹			ALTAMONT OIL & GAS, INC
Chain of custody agrees with sample labels?	Yes	No 🗹		2	# %
Samples in proper container/bottle?	Yes 🗸	No 🗌		円 =	N N
Sample containers intact?	Yes 🗸	No 🗌		W W	AMO N
Sufficient sample volume for indicated test?	Yes 🔽	No 🗌		a -	ALT.
All samples received within holding time?	Yes 🗸	No 🗌			
Conlainer/Temp Blank temperature in compliance?	Yes	No 🗹	14°C		
Water - VOA vials have zero headspace?	Yes [	No 🗌	No VOA vials submitted	$\checkmark$	
Water - pH acceptable upon receipt?	Yes	No 🔲	Not Applicable		

Contact and Corrective Action Comments:

Letter of instruction provided from client.



## LABORATORY ANALYTICAL REPORT

Client:

Altamont Oil & Gas Inc

Project:

Altamont Jody Fields

Lal ID:

B07120154-001

Client Sample ID: #4 - 1 Well

Report Date: 12/07/07

Collection Date: 12/03/07 12:00

DateReceived: 12/04/07

Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Salhity	4.69			0.10		Calculation	12/05/07 08:36 / klc
Conductivity	8480	umhos/cm		1		A2510 B	12/04/07 12:01 / kh
Resistivity @ 68 F	1.18	ohm-m		0.04		E120.1	12/05/07 14:45 / klc

## ANALYTICAL SUMMARY REPORT

January 03, 2008

Patrick Montalban

Altamont Oil & Gas Inc

PO Box 488

Cutbank, MT 59427

Workorder No.: B07120154

Project Name: Altamont Jody Fields

Energy Laboratories Inc received the following 1 sample from Altamont Oil & Gas Inc on 12/4/2007 for analysis.

Sample ID	Client Sample ID	<b>Collect Date</b>	Receive Date	Matrix	Test
B0712 <b>O</b> 154-00 <sup>-</sup>	1 #4 - 1 Well	12/03/07 12:00	12/04/07	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Anions by ion chromatography Conductivity Specific Gravity pH
	e e				Preparation, Dissolved Filtration Resistivity ROF report format Salinity Solids, Total Dissolved - Calculated

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except if noted in report comments or the Case Narrative.

If you have any questions regarding these tests results, please call.

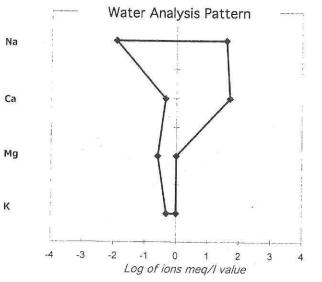
Report Approved By:



Company: Altamont Oil & Gas Inc	Date: 1/3/2008	
Field: Altamont Jody Fields	Sample Date: 12/3/2007	
County: 0	Formation :	en en en en en en en en en en en en en e
Location: #4 - 1 Well	Rock Type :	
Lab ID: B07120154-001	Depth :	
Comments :	Depth :	

## **Water Analysis Report**

			-	•	
CATIONS Potassium Sodium Calcium Magnesium Irom Barium Strontium SUM +	mg/l 81 1,970 45 48 nd nd nd	meq/l 2.07 85.69 2.25 3.95 nd nd nd		ANIONS Sulfate Chloride Carbonate Bicarbonate Bromide Organic Acids Hydroxide SUM -	mg/l         meq/l           25         0.52           1,380         38.92           <1         0.00           3,120         51.15           nd         nd           nd         nd           ≤1         0.00           4,525         90.59
Solids				Sample Conditions	
Total Dissolved Solids @180°C Total Solids, Calculated Total Solids, NaCl equivalents Chloride as NaCl NaCl, % of Total Dissolved Solids Accuracy		nd mg 5,109 mg 4,298 mg 2,275 mg 44.52 % -2.23 Sig	9/l 9/l 9/l	pH, s.u. (Field) Sample Pressure Surface Temp Downhole Temp Ionic Strength	7.50 s.u. 14.70 psia 70.00 °F na °F 0.096 μ
Dissolved Gases					
Bisulfide ion		nd		District	
Hydrogen Sulfide				Dissolved O <sub>2</sub> , aq	nd
Total Sulfide		nd nd		Total CO <sub>2</sub> , aq	2,427 mg/l
Other Properties				¥	9
Calcium Hardness as CaCO <sub>3</sub>		112 mg	/1	Specific Gravity	1.007 measured
Magnesium Hardness as CaCO <sub>3</sub>		198 mg	0	Specific Gravity	
Total Hardness as CaCO <sub>3</sub>	<del>// ***********************************</del>	310 mg		.50	1.005 calculated
		Dio mg	Į i	Resistivity, 68°F Conductivity 25°C	1.18 ohm-m 8,480 umhos/cm
Microbiological				Scaling Conditions	
Sulfate Reducing nd				Calcium Carbonate	CaCO <sub>3</sub> +
Aerobic Bacteria nd				Calcium Sulfate	CaSO <sub>4</sub>
				Barium Sulfate	BaSO <sub>4</sub> -
14/				Strontium Sulfate	SrSO <sub>4</sub> -
Water A	Analysis Patte	rn —	CI		RECEIVE
			, CI		ONDE IN IN INDI



HCO <sub>3</sub>	COMPOUN
	NaHCO3
	NaCl
	Mg(HCO3)2
SO <sub>4</sub>	Ca(HCO3)2
	Na2SO4

CO<sub>3</sub>

obable Mineral Re	esidue, Dry	V
Calculation	n error = -3.7 %LTAMONT OIL & GA	S, 1
MPOUND	mg/I	10003
HCO3	3,705	
CI	2,275	
(HCO3)2	289	
(HCO3)2	182	
2504	37.0	

Note: nd denotes 'Not Determined'

Probable Mineral Residue, Dry

01/13/00 vEL1.0carney/standish



Client: Altamont Oil & Gas Inc

Revised Date: 12/28/07 Report Date: 12/07/07

Work Order: B07120154

Project: Altamont Jody Fields

Analy te	Result	Units		RL	%REC	Low Limit	High Limit	RPD R	PDLimit Qu	ual
Metho d: A2320 B								Е	atch: ALK071	220A
SampleD: MBLK	Method Blank					Run: MISC	-WC_071220L		12/20/07	10:00
Alkalin ity, Total as CaCO3	2	mg/L		1						. 18
Bicarb o nate as HCO3	2	mg/L		. 1						
Carbo nale as CO3	ND	mg/L		1.						
Hydro×ide as OH	ND	mg/L		1						
SampleD: LCS	Laboratory Co	ontrol Sam	ple			Run: MISC	C-WC_071220L		12/20/07	10:15
Alkalin ity, Total as CaCO3	97.7	mg/L		1.0	96	90	110			
Sample D: B07121500-001ADUP	Sample Dupli	cate				Run: MISC	C-WC_071220L		12/20/07	11:00
Alkalin ity, Total as CaCO3	2080	mg/L		1.0				4.5	20	
Bicarb onate as HCO3	2540	mg/L		1.0				4.5	20	
Carbonale as CO3	ND	mg/L		1.0				0.0	20	
Hydro×ide as OH	ND	mg/L		1.0				0.0	20	
Method: A2510 B	,		***				Anna anna anna anna anna anna anna anna	Ва	tch: PHSC071	1204A
Sample D: PHC1070910A	Laboratory Co	ontrol Sam	ple			Run: ORIO	DN555A_071204A		12/04/07	08:58
Conductivity	157	umhos/cn	n .	1.0	103	90	110			
Sample D: PHC1070810A	Laboratory Co	ontrol Sam	nple			Run: ORIG	ON555A_071204A	· ·	12/04/07	08:59
Conductivity	5120	umhos/cn	n	1.0	102	90	110			
Sample D: B07120150-001ADUP	Sample Dupli	cate				Run: ORI	ON555A_071204A	<b>\</b>	12/04/07	11:57
Conductivity	907	umhos/cn	n	1.0				0.5	10	
Method: A4500 H						(C)	Analytica	il Run: OF	RION555A_071	1220E
Sample ID: PHC1071130A	Initial Calibra	tion Verific	ation St	tandard					12/20/07	08:30
рН	7.01	s.u.		0.10	100	98	102			
Method: A4500 H						2.7()		Ва	atch: PHSC07	1220A
Sample ID: B07121618-003ADUP	Sample Dupli	cate				Run: ORI	ON555A_071220E	3	12/20/07	17:28
Н	7.76	s.u.		0.10			11 200	1.2	10	



## QA/QC Summary Report

Client: Altamont Oil & Gas Inc

Revised Date: 12/28/07

Report Date: 12/07/07

Work Order: B07120154

Project: Altamont Jody Fields

Analy te		Result	Units		RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	E200.7									Bat	ch: 30333
Samp le ID:	MB-30333	Method Blank					Run: ICP2	02-B_071227A		12/27	7/07 11:51
Calciu m		0.04	mg/L		0.009				10		
Magnesium		ND	mg/L		0.01						
Potassium		0.03	mg/L		0.02						
Sodium		ND	mg/L		0.1		*				
Sample ID:	B07121574-001BMS2	Sample Matrix	Spike				Run: ICP2	02-B_071227A		12/27	7/07 12:06
Calciu m		92.7	mg/L		1.0	97	70	130			
Magnesium		67.5	mg/L		1.0	101	70	130			
Potassium		53.0	mg/L		1.0	103	70	130			
Sodium		59.6	mg/L		1.0	103	70	130			
Sample ID:	B07121574-001BMSD2	Sample Matrix	Spike Duplicate			Run: ICP202-B_071227A				12/2	7/07 12:09
Calcium		93.3	mg/L		1.0	98	70	130	0.7	20	
Magnesium		67.3	mg/L		1.0	100	70	130	0.3	20	
Potassium		53.2	mg/L		1.0	104	70	130	0.4	20	
Sodium		60.2	mg/L		1.0	105	70	130	1.0	20	
Method:	E200.7	18 20 20 20 20 20 20 20 20 20 20 20 20 20						Anal	ytical R	un: ICP202-B	_071227A
Sample ID:	QCS	Initial Calibration	on Verific	ation Sta	ndard					12/2	7/07. 10:09
Calcium		50.1	mg/L		1.0	100	90	110			
Magnesium		49.0	mg/L		1.0	98	90	110			Ti .
Potassium		50.7	mg/L		1.0	101	90	110			
Sodium		50.5	mg/L		1.0	101	90	110			





Altamont Oil & Gas Inc

Project: Altamont Jody Fields

## QA/QC Summary Report

Revised Date: 12/28/07

Report Date: 12/07/07

Work Order: B07120154

Analy te		Result	Units	RL	%REC	Low Limit	High Limit	RPD RP	DLimit	Qual
Method:	E300.0						An	alytical Run:	IC202-B	_071221A
Samp le ID:	ICV	Initial Calibration	on Verification S	andard					12/21	l /07 10:02
Chlori de		25.2	mg/L	1.0	101	90	<b>1</b> 10			7
Sulfate		101	mg/L	1.0	101	90	110			
Method:	E300.0			15-2000			a market Gr	ani iuraSurVenei	Batch:	R104331
Sample ID:	ICB	Method Blank				Run: IC202	2-B_071221A		12/21	/07 10:14
Chloride		0.04	mg/L	0.03						
Sulfate		ND	mg/L	0.06						
Sample ID:	LFB	Laboratory For	tified Blank			Run: IC202	2-B_071221A		12/21	1/07 10:26
Chloride		9.27	mg/L	1.0	92	90	110			
Sulfate		37.2	mg/L	1.0	93	90	110	Si		
Sample ID:	B07120154-001AMS	Sample Matrix	Spike			Run: IC202	2-B_071221A		12/21	1/07 11:35
Chloride	05 19	2580	mg/L	1.5	96	90	110			
Sulfate		4890	mg/L	3.1	97	90	110			
Sample ID:	B07120154-001AMSD	Sample Matrix	Spike Duplicate			Run: IC202	2-B_071221A		12/21	1/07 11:47
Chloride		2560	mg/L	1.5	94		110	0.9	20	
Sulfate		4850	mg/L	3.1	97	90	110	0.8	20	

RECEIVED JAN 1 4 2008

# E nergy Laboratories Inc Workorder Receipt Checklist

## All tamont Oil and Gas Inc

B07120154

Logincompleted by: Eric L. Frank  Reviewed by: Staci Fread  Reviewed Date: 12/4/2007 8:02:40 PM	Rec	Received: 12/4/2007 9:15 AM eived by: elf er name: UPS NDA	
Shipping container/cooler in good condition?  Custody seals intact on shipping container/cooler?  Custody seals intact on sample bottles?  Chain of custody present?  Chain of custody signed when relinquished and received?  Chain of custody agrees with sample labels?  Samples in proper container/bottle?  Sample containers intact?  Sufficient sample volume for indicated test?  All samples received within holding time?	Yes	No	Not Present ☑  Not Present ☑  Not Present ☑
Container/Temp Blank temperature in compliance?  Water · VOA vials have zero headspace?  Water · pH acceptable upon receipt?	Yes  Yes  Yes  Yes	No 🔀 No 🗀	14°C  No VOA vials submitted   ✓  Not Applicable  ✓

Contact and Corrective Action Comments:

Letter of instruction provided from client.

JAN 1 4 2008 Y

PECENCE JAN 1 4 2008

115/208

Altamont Oil & Gas Inc Patrick Montalban PO Box 488 Cutbank MT 59427

Manor Frik 41

Aldanor Hick 41

Au aktely



## LABORATORY ANALYTICAL REPORT

CIE ent:

MCR LLC

Project:

Berthelote Water Disposal

La bID:

B08042696-002

Client Sample ID: Disp System

Report Date: 05/06/08

Collection Date: 04/24/08 06:45

DateReceived: 04/25/08

Matrix: Aqueous

				3500			
Araalyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES Solids, Total Dissolved TDS @ 180 C	3220	mg/L		10		A2540 C	04/25/08 13:39 / afb
IN ORGANICS Allkalinity, Total as CaCO3 Sulfate	2010 159	mg/L mg/L		1 1		A2320 B E300.0	04/25/08 21:40 / kh 04/28/08 20:05 / qed
NUTRIENTS Ni trogen, Nitrate+Nitrite as N	0.14	mg/L		0.05		E353.2	05/02/08 13:39 / bls

Mode South of the South of the Market Doposet)



## ANALYTICAL SUMMARY REPORT

March 11, 2009

Patrick Montalban Altamont Oil & Gas Inc PO Box 488 Cut Bank, MT 59427

Workorder No.: B09030751

Project Name:

Permit

Energy Laboratories Inc received the following 1 sample for Altamont Oil & Gas Inc on 3/10/2009 for analysis.

Test Sample ID Client Sample ID Receive Date Matrix Collect Date B09030751-001 SESW-Section 34-T29N-03/05/09 0:00 03/10/09 Aqueous Solids, Total Dissolved R6W, Jody Fields #14-34

Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By



#### LABORATORY ANALYTICAL REPORT

Client:

Altamont Oil & Gas Inc

Project:

Permit

Lab ID:

B09030751-001

Client Sample ID: SESW-Section 34-T29N-R6W, Jody Fields #14-34

Report Date: 03/11/09

Collection Date: 03/05/09

DateReceived: 03/10/09

Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES Solids, Total Dissolved TDS @ 180 C	5440	mg/L		10		A2540 C	03/10/09 16:24 / afb



Client: Altamont Oil & Gas Inc

Project: Permit

Report Date: 03/11/09

Work Order: B09030751

Company Compan									
Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C		ARVEVA.			<u> </u>			Batch: TD	S090310A
Sample ID: MBLK2	Method Blank				Run: CPA	124S_090310B		03/10	0/09 16:23
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	10						
Sample ID: LFB2	Laboratory For	tified Blank			Run: CPA	124S_090310B		03/10	0/09 16:23
Solids, Total Dissolved TDS @ 180 C	1090	mg/L	10	99	90	110			9
Sample ID: B09030751-001A MS	Sample Matrix	Spike	Na.		Run: CPA	124S_090310B		03/1	0/09 16:24
Solids, Total Dissolved TDS @ 180 C	7770	mg/L	10	101	80	120			
Sample ID: B09030751-001A MSD	Sample Matrix	Spike Duplicate	*		Run: CPA	124S_090310B		03/1	0/09 16:25
Solids, Total Dissolved TDS @ 180 C	7770	mg/L	10	101	80	120	0.1	20	

# **Energy Laboratories Inc** Workorder Receipt Checklist

## Altamont Oil and Gas Inc

309030751	

Login completed by: Krystal McDonald Date and Time Received: 3/10/2009 11:15 AM Reviewed by: Denise Ruby Received by: Ig Reviewed Date: 3/10/2009 12:55:00 PM Carrier name: Std US Mail Shipping container/cooler in good condition? Yes 🗸 No 🖂 Not Present [ Custody seals intact on shipping container/cooler? Yes 🖂 No 🖂 Not Present [7] Custody seals intact on sample bottles? Yes 🗌 No 🗍 Not Present 🗸 Chain of custody present? Yes 🗸 No 🗌 Chain of custody signed when relinquished and received? Yes 🗸 No 🗆 Chain of custody agrees with sample labels? Yes V No 🗆 Samples in proper container/bottle? Yes 🗸 No 🗆 Sample containers intact? Yes 🗸 No 🗌 Sufficient sample volume for indicated test? Yes 🗸 No 🗆 All samples received within holding time? Yes 🗸 No 🗌 Container/Temp Blank temperature: 15°C No VOA vials submitted

Yes  $\square$ 

Yes 🗍

No 🖂

No 🗌

Not Applicable 🗸

Contact and Corrective Action Comments:

Water - VOA vials have zero headspace?

Water - pH acceptable upon receipt?

None

Hical Request Record  Sample Origin  Page 1 of 1  State: MONTANA Sampler Compliance:  FAX: (406) 873–2835  FAX: (406) 873–8835  FAX: (4	Totally Dissolved Sqlids X	Reinquiend by (print)  Carla Barringer
Company Name:  Company Name:  ALTAMONT OIL & GAS, INC  Report Mall Address:  PO BOX 488  CUT BANK MT 59427  Invoice Address:  SAME AS ABOVE  Special Report/Formats - ELI must be notified  Bycial Report/Formats - ELI must be notified  Special Report/Formats - ELI must be notified  Bycial Report/For	EIDENTIFICATION Collection Collection MATRIX CTION 14-34 3/5/09	Custody Record MUST be Signed

## **Privileged and Confidential**

## **EXHIBIT B**

Well Reports, Jody Field Wells 34-1 and 34-2

# **Engineering Completion Report**

Montalban Oil & Gas Operations Inc MOGO/Jody Field 34-1 NWNW – Section 34-T29N-R6W (2310' FSL – 990' FWL) Pondera County, Montana API #25-073-21838

> Altamont Oil & Gas Inc Patrick M. Montalban Petroleum Consultant PO Box 488 Cut Bank, MT 59427

## Resume

Spud Date:		August 28, 2008
<b>Completion Date:</b>		May 6, 2008
Status:		Madison Sun River Dolomite Injection Well
Elevation:		4071' GR 4076' KB
Total Depth:		3540' Driller 3539' Logger 4 ½" set @ 3540' Float Collar 3495'
Hole Size:		8 3/4" (0 - 679') 6 1/4" (679' - 3540')
Casing Size:		7", 17#/ft, Ltd, ST&C, set @ 674.94' K w/175 sacks Class G Cement 4 ½", 105#/ft, SPI, J55, ST&C, Rge 3 so @ 3539.71 KB w/100 sacks Class G Cement. Float collar @ 3495.42 KB
Perforations:	New Perforations	3428' - 3432' = 4 SPF = 3 1/8" HSC 3442' - 3446' = 4 SPF = 3 1/8" HSC 3440' - 3442' = 4 SPF = 3 1/8" HSC 3448' - 3452' = 4 SPF = 3 1/8" HSC 3452' - 3466' = 4 SPF = 3 1/8" HSC 3470' - 3480' = 4 SPF = 3 1/8" HSC 3480' - 3490' = 4 SPF = 3 1/8" HSC 3490' - 3493" = 4 SPF = 3 1/8" HSC 3448' - 3474' = 4 SPF = 3 1/8" Exp. 3474' - 3506' = 4 SPF = 3 1/8" Exp. 3506' - 3538' = 4 SPF = 3 1/8" Exp.
Bridge Plug:		None
Tubing:		105 joints 2 3/8", 4.7 #/ft, J55. 8rd, ST&C set @ 3398.58' with 4 ½' x 2 38" ADI
Seating Nipple:		None
Rods:		None
Pump:		None
Pumping Unit:		None

## **Daily Activity Summary**

Wednesday September 2, 2022

70°F – 95°F Clear Sky. 30 mph from the west.

Began operations @ 9:00 am.

Moved in and rigged up Liquid Gold Well Service Rig No. 6. Haul in and set circulating tank and power swivel. Rigged up 2:30 pm. Unseat 4 ½" x 2 3/8" AD-1 packer unseated @ 3:00 pm. Pack off tubing. Start and go through circulating pump. Shut down operations due to high winds 30-40 mph. Shut down operations @ 3:30 pm.

Total Rog Hours: 6 ½ hrs x \$260. Travel Time: (2 Trucks) (per material Tracking Costs:		\$1,690.00 \$180.00
Pickup Costs: 2 trucks x \$60.00	=	\$120.00
Fuel Surcharge: 10%	=	\$169.00
<b>Environmental Safety</b>	=	\$50.00
Tool Pusher		\$350.00
Extra Labor: 1 man x \$45.00/hr	=	<b>\$292.50</b>
		\$2,851.50
Winch Truck: 3 hrs x \$165.00	=	\$495.00
2 hrs Tanker: 2 x \$165.00	=	\$330.00
1 Pickup: (\$60 per unit)	=	\$60.00
Fuel Surcharge: 10%	=	\$82.50
Pump Truck Mileage: 40 miles x	\$4.00	\$160.00
1 Travel per Man: 2 x \$45.00	=	<u>\$90.00</u>
<del>-</del>		\$1,217.50
1 day Consulting = $1500/2$	=	\$750.00
Mileage: 60 miles x 1.00	=	<u>\$60.00</u>
		\$810.00
<b>Total Daily Costs</b>	=	\$4,879.00

## Thursday September 8, 2022

56°F – Cloudy Sky – 10-15 mph wind from North Began operations @ 8:00 am. Well flowed and equalized on the backside. Pulled and strapped 2 3/8", 4.7#/ft tubing out of the hole. Pulled 105 joints 2 3/8", 4.7#/ft with 4  $\frac{1}{2}$ " x 2 3/8" AD-1 Packer. Tubing tally as follows

 $1 - 4 \frac{1}{2}$ " x 2 3/8" AD-1 Packer = 2.50" 1 - 2 3/8" seating Nipple = 1.10"

105 joints 2 3/8", 4.7#/ft, J55, 8rd = 3391.98'

Total = 3395.58

KB = 3.0

Total String = 3398.58' KB

Stop and pick up 2 joints of 2 3/8" tubing. Tagged as follows and slowly circulated to T.D.

2 joints of 2 3/8" tubing = 3398.58' KB 62.90' 3461.48' KB

Stop and pick up 1 joint of 2 3/8" tubing

1 joint of 2 3/8" tubing = 31.45'
Total 108 joints

Total Tubing = 3492.93' KB

 $48^{\circ}F$  – Raining and very cloudy @ 2:00 pm.

Tagged @ 3461' KB and circulated to total depth 3493' KB and recovered thick black oily sulphur water with many solids. Circulated the last 15' to total depth 3493' KB. Well went on a vacuum and we lost 15 bbls in 1 hour from the circulating tank. Successful clean out of the well. Shut down operations @ 6:00 pm.

Total Rig Hours:  $10 \text{ hrs } \times \$260.00 =$ \$2,600.00 Travel Time: 4 men x 2 hrs x \$45.00 =\$360.00 **Trucking Costs** Pickup Costs: 2 trucks x \$60.00 \$1,200.00 **Circulating Tank: (Pump Tank)** = \$550.00 /day **Power Swivel: 1 x \$250.00** = \$250.00 **Fuel Surcharge: 10%** \$315.00 = **Environmental & Safety** = \$50.00 **Tool Pusher** \$350.00 Swivel Delivery: 40 miles x \$4.00 \$160.00 = 3 7/8" Bit = \$600.00

Bit Sub Extra Labor: \$45.00/hour x 10 hrs Circulating Rubber Pipe Dope	= = = =	\$50.00 \$450.00 \$300.00 \$25.00 \$6,180.00
Vacuum Truck: 2 ½ hrs x \$145.00 1 Pickup 1 hr Travel per Man Fuel Surcharge Total	= = = =	\$362.50 \$60.00 \$90.00 \$36.25 \$548.75
1 day Consulting: 1500/2 Mileage: 60 miles x \$1.00	= =	\$750.00 \$60.00 \$810.00
Total		\$7,538.75

Friday September 9, 2022

 $43^{\circ}F$  - Raining and cold - NW wind from NW Began operations @ 8:00 am. Ran 4 ½" x 2 3/8" AD-1 packer with 105 joints of 2 3/8", 4.7#/ft tubing. Tubing string as follows:

Moved in and rigged up Liquid Gold Pump and Transport Truck. Pressure up backside to 500#/s. Acidized well with 1000 gallons of 28% Hcl (23.8 bbls) Acid job as follows:

=

3398.58' KB

Pumped acid @ 1000#/s to load perforations Pumped 23.8 bbls Hcl acid @ 1000 bbls @ 1 bbl/minute Pumped displacement @

Pumping – 2.0 bbls/minute @ 1200#/s Pumping – 3.0 bbls/minute @ 1750#/s Pumping – 3.0 bbls/minute @ 1100#/s Over displaced by 30.0 bbls

Instant shut in Pressure = 1000#/s 5 minute shut in Pressure = 100#/s 7 minute shut in Pressure = 0#/s

**Total String KB** 

Well on a vacuum. Unseat  $4\frac{1}{2}$ " x 2 3/8" AD-1 Packer and pulled 105 joints of tubing. Pick up 3 7/8" bit and sub and ran tubing string as follows:

1 – 3 7/8" bit and bit sub 108 joints 2 3/8", 4.7#/ft	=	1.25
J55, 8rd, ST&C	=	3492.93'
<b>Total String</b>	=	3494.18'
Pick up 1 joint 2 3/8" tubing Total string = 109 joints	=	31.45
Total string – 107 joints		3525.63 Gr
Add KR	_	3 0'

Add KB =  $\frac{3.0'}{3528.63}$  KB

Tagged float collar @ 3492.93 KB. Picked up power swivel and began to drill float collar @ 3:00 pm. Drilled from 3 7/8" from 3:00 pm to 5:30 pm. Shut down operations @ 5:30 pm

Total Rig Hours: 9 hrs x \$260.00	=	\$2,470.00
Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00 per	man =	\$270.00
Fuel Surcharge: 10%	=	\$357.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor: \$350.00 per day	=	\$350.00
Pump Tank: \$550.00 per day	=	\$550.00
Power Swivel: \$550.00 per day	=	\$550.00
4 1/2" AD-1 Packer: Rental 1 day x	\$250 =	\$250.00
Crossover Sub	=	<u>\$50.00</u>
<b>Total Rig Costs</b>	=	\$5,017.00

## Acid Job = 1000 gallons 28% Hcl

Acid Pump Truck	=	\$1,600.00
Pump Truck Mileage		
Bulk Acid Truck: \$750 per day	=	\$750.00
Mileage Bulk truck: \$4.00/mile x	40 miles	\$160.00
1000 gallons 28% Hcl	=	\$3,250.00
Additives	=	\$489.50
1 Pickup: \$60.00 per day	=	\$60.00
Fuel Surcharge: 10%	=	\$249.50
<b>Environmental &amp; Safety</b>	=	<u>\$75.00</u>
<b>Total Costs</b>	=	\$6,779.00
<b>Total Rig Costs</b>	=	\$11,796.00

Consulting: \$1500per day/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$60.00 \$810.00

Total \$12,606.00

Monday September 12, 2022

59°F – Very Smokey – North/North West wind 15 mph. Began operations @ 8:00 am. Rigged up power swivel and drilling equipment. Drilled from 9:00 am – 10:30 am. Drilled out 4 ½" float collar @ 10:30 am. Drilled 3 7/8" hole from 3495' to 3528.63'. Picked up 110th joint and drilled from 3528.63' to 3538.63' from 10:30 am to 12:00 pm. Drilled 3 7/8" hole from 3583.63' to 3543'. Tag guide shoe. Began to torque up 3 7/8" bit. Total depth @ 3543' KB by rig operators. Circulate and clean hole. Total pipe tally below:

1-37/8" bit and bit sub	=	1.25'
Ran 109 2 3/8", 4.7#/ft, J55, 8rd ST&C Rge 3	=	3524.38'
<b>Total String</b>	=	3525.63
Add KB = 3'	=	3.00° 3528.63°
Picked up 110 joints = 31.45' Drilled 14' of the 110 joints	=	<u>14.0'</u>
<b>Total String</b>		3542.63

Total depth 3543.0' KB by rig operator. Circulated hole clean for 1 hr. Hole clean. Tripped 110 joints out of the hole. Pick up 3 7/8" bit and casing scraper.

69° - Very smokey – North/Northwest wind @ 15 mph Trip 110 joints 2 3/8", 4.7#/ft tubing into hole and tag total depth 3543' KB by operator. Circulated hole and reciprocate a number of times from 3420' – 3543' KB. Circulated tubing and rotate tubing and well cleaned out to total depth with no fill. Lift tubing above 3420'. Shut down operations @ 5:00pm.

Total Rig hours: 9hrs x \$260.00	=	\$2,340.00
Daily Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45/hr/man	=	\$360.00
Fuel Charge: 10%	=	\$344.00
Environmental & Safety	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump & Tank	=	\$550.00
Power Swivel	=	\$550.00
4 ½" Scraper	=	\$150.00
3 7/8" Bit for Scraper	=	\$200.00
Extra Labor: (1 guy) \$45/hr	=	\$405.00
Bit Sub	=	\$50.00

Tuesday September 13, 2022

59°F – Very Smokey – Very little wind Began operations @ 11:00 am. Tripped to total depth 2543' KB and tagged no fill. Rolled hole and circulated well clean. Trip out of hole for perforating company. Rigged up Nine Energy Service @ 2:00 pm. Ran 3.75" gauge ring to total depth 3538' KB. Perforated 3506' – 3538' = 4 SPF, 3 1/8" expendable gun. 32' = 120 shots, successful shooting. Perforated 3474' – 3506' = 4 SPF, 3 1/8" expendable gun. 32' = 120 shots, successful shooting. Perforated 3448' – 3474' = 4 SPF, 3 1/8" expendable gun. 26' = 96 shots, successful shooting. Shot 90' of the Sun River Dolomite Formation. Rigged down Nine Energy Service. Tripped in \_\_\_\_\_\_ joints of 2 3/8" tubing with a 4 ½" x 2 3/8" SD-1 Packer with 3 joints of tail pipe. Tubing tally as follows:

1-2 3/8" seating nipple	=	1.10'
105 joints 2 3/8", 4.7#/ft, J55, 8rd		
ST&C Rge 3	=	3391.98'
Total		3395.58'
KB = 3'	=	<u>3.0'</u>
		3398.58'
3 joints of tubing = total 108 joints	=	<u>94.35'</u>
3 joints of tubing below packer		
Set @		3492.93'

2.50

Packer set @ 3398.58' KB

 $1 - 4\frac{1}{2}$ " x 2 3/8" AS-1 Packer

Set 4 ½" x 2 3/8" AS-1 Packer @ 3399' KB. Shut down operations @ 6:30 pm

Total Rig Hours: 7 ½ x \$260.00	=	\$1,950.00
Daily Pickup: 2 hrs x &60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/man	=	\$270.00
Fuel Surcharge: 10%	=	\$250.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump & Tank	=	\$550.00
Pipe Dope	=	<u>\$25.00</u>
<b>Total Costs</b>	=	\$3,515.00

3 hours water tanker: 3 x \$165.00 = \$495.00 2 hours pickup: 2 x \$45.00 = \$90.00 1 pickup: = \$60.00 Fuel Surcharge: 10% = \$49.50 Environmental: \$50.00/day = \$50.00 \$744.50

**Nine-CDK Perforating LLC** 

Perforated Madison Sun River Dolomite \$28,770.00

1 day Consulting: 1500/2 = \$750.00 Mileage: 60 miles x \$1.00/mile = \$60.00 \$810.00

**Total Daily Costs** = \$33,839.50

# **Perforating Summary**

MOGO/Jody Fields 34-1 SESESW Section 34-T28N-R6W Pondera County Montana

No. 1 Perforated Interval
Perforated Formation – Madison Sun River Dolomite
Perforated Interval – 3506' – 3538'
3 1/8" Expendable Gun = 33.2" Penetration .55 Diameter
4 SPF = 120 Shots
Collar Locator = 3503'7"
Shot @ 3:21 pm
Successful Shooting

No. 2 Perforated Interval
Perforated Formation – Madison Sun River Dolomite
Perforated Interval – 3474' – 3506'
3 1/8" Expendable Gun = 33.2 Penetration .55 Diameter on shot hole
4 SPF = 120 Shots
Collar Locator 3503'7"
Shot @ 3:57 pm
Successful Shooting

No. 3 Perforated Interval
Perforated Formation – Madison Sun River Dolomite
Perforated Interval – 3448' – 3474'
3 1/8" Expendable Gun = 33.2 Penetration .55 Diameter on shop hole
4 SPF = 96 shots
Collar Locator = 3445'7"
Shot @ 4:29 pm
Successful Shooting

55°F – Very Smokey – Wind from NW @ 9 mph Began operations @ 8:00 am. Moved in and rigged up Liquid Gold Well Service Pump Truck and Acid Transport. Pressured backside to 600#/s. Held OK. Began acid job @ 10:00 am. Acidized well with 1000 gallons of 28% Hcl Acid as follows:

Total Acid = 23.8 bbls Total displacement = 15.5 bbls. Load acid in tubing. Acid on perforation with 13.5 bbls pumping @ 400#/s. Acid job as follows:

Pumped 2.0 bbls/min @ 900#/s Pumped 2.0 bbls.min @ 1000#/s Pumped 23.8 bbls of acid and start displacement Pumped 2.0 bbls/min @ 900#/s pumped 13.5 bbls of displacement

Pumping 3.0 bbls/min @ 1400#/s displacement
Pumping 3.0 bbls/min @ 1500#/s 10 bbls over displacement
Pumping 3.0 bbls/min @ 1000#/s displacement
Pumping 3.0 bbls/min @ 1000#/s 5 bbls over displacement

# Pumped 35.0 bbls over displacement

ISI = 600#/s 1 minute shut in = 100#/s 2 minute shut in = vacuum

Job ended. Moved out Liquid Gold Equipment Unseat 4 ½" x 2 3/8" AD-1 Packer

1:00 pm – 59°F – Very Smokey Tripped out 105 joints of 2 3/8" tubing. Remove packer. Pickup rebuilt 4 ½" x 2 3/8" AD-1 packer. Ran tubing as follows:

1 – 4 ½" x 2 3/8" AD-=1 Packer = 2.50' 1 – 2 3/8" Seating Nipple = 1.10'

105 joints 2 3/8", 4.7#/ft, J55, 8rd ST&C tubing = 3391.58'

> Total String = 3395.58' KB = 3.0'

**Tubing set @ 3398.58' KB** 

Rolled to casing with 50 bbls of corrosion inhabitated water. Fluid clean. Landed 4 ½" x 2 3/8" AD-1 Packer with 13,000#/s over string weight. Held OK. Ran MIT test on well as follows:

<b>Time</b>	<b>Pressure</b>	Result
2:24 pm	450#/s	Held OK
2:29 pm	450#/s	Held OK
2:34 pm	450#/s	Held OK

Passed MIT test. Rigged down and moved Fields #34-2. Shut down operations @ 3:00pm

Total Rig Hours: 7 hrs x \$260.00	=	\$1,820.00
Daily Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 1 hr x \$45.00/man	=	\$135.00
Fuel Surcharge: 10%	=	\$237.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor	=	\$350.00
Pump & Tank	=	\$550.00
4 ½" Redress Packer	=	\$500.00
2" fill port part 3000#/s valve		
For acid job & pressure handline	=	\$540.00
4 ½" x 2 3/8" AD-1 for acid job	=	\$250.00
Pipe Dope	=	<u>\$25.00</u>
<b>Total Costs</b>	=	\$4,442.00

# Acid job 1000 gallons 28% Hcl

Acid Pump Truck	=	\$1,600.00
Bulk Acid Truck	=	\$750.00
<b>Bulk Mileage</b>	=	\$160.00
Bulk Acid 1000 gallons @		
3.25 x 1000	=	\$3,250.00
Additives	=	\$704.50
Environmental: \$75.00/day	=	\$75.00
1 Pickup	=	\$60.00
Fuel Surcharge: 10%	=	<b>\$301.00</b>
<b>Total Costs</b>	=	\$7,560.00
1 Day Consulting: 1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	<u>\$60.00</u>
_		\$810.00

Total Daily Costs =

\$12,812.00

**Total Workover = \$77,979.25** 

# **Engineering Completion Report**

Montalban Oil & Gas Operations Inc MOGO/Jody Field 34-2 NENWSW – Section 34-T29N-R6W (2310' FSL – 990' FWL) Pondera County, Montana API #25-073-21838

**Lone Man Coulee Field** 

Altamont Oil & Gas Inc Patrick M. Montalban Petroleum Consultant PO Box 488 Cut Bank, MT 59427

# Resume

Spud Date:	August 7, 2008
Completion Date:	August 18, 2008
Status:	Madison Sun River Dolomite Injection Well
Elevation:	4033' GR 4038' KB
Total Depth:	3415' Driller 3451' Logger
Hole Size:	8 <sup>3</sup> / <sub>4</sub> " (0 – 668') 6 <sup>1</sup> / <sub>4</sub> " (668' – 3415') 3 7/8" (3415' – 3451') New Open Hole
Casing Size:	7", 17#/ft, Ltd, ST&C, set @ 664.30' KB cemented w/260sacks Class G Cement 4 ½", 10.5#/ft, API, J55, ST&C, Rge 3 set @ 3418' KB w/125 sacks Class G Cement.
Perforations:	None
Bridge Plug:	None
Open Hole:	3418' – 3499' KB
Tubing:	107 joints 2 3/8", 4.7 #/ft, API, J55, Rge set @ 3366.36
Seating Nipple:	3365.16 KB
Rods:	None
Pump:	None
Pumping Unit:	None
Status:	Injection Well

# **Daily Activity Summary**

Wednesday	7	
September	14,	2022

70°F – Partly Cloudy – Smokey – NW wind @ 10 mph. Began operations @ 3:00 pm. Moved in and rigged up Liquid Gold Well Service Rig No. 6. Unseat 4 ½" x 2 3/8" AD-1 packer. Trip 107 joints of 2 3/8", 4.7#/ft, J55, API out of hole. Strapped out of the hole. 4 ½" x 2 3/8" AD-1 packer looked good. Shut down operations @ 7:00 pm

Total Rig Hours: 4hrs x \$260.00 = \$1,040.00 Pickup Travel: 1 hr x 1 hr x \$45.00/man \$135.00

Environmental = \$50.00 Fuel Surcharge: 10% = \$104.00

Total Costs = \$1,279.00

Thursday September 15, 2022

 $60^{\circ}F$  - Smokey - Partly Cloudy - Very little wind Began operations @ 8:00 am. Moved in circulating tank and power swivel. Haul H2O into location to fill tanks and clean well out to total depth: 3451'. Ran 109-2 3/8", 4.7#/ft, J55, 8rd with 3 7/8" bit to clean out well to total depth 3451'. Tubing as follows:

Out

Total String = 3420.90' KB = 3.00' 3423.90' KB

3423.90

In

Finish hauling equipment and H2O into circulating tanks. Need to clean out 27' out of open hole.

# Thursday September 15, 2022

 $64^{\circ}F$  – Smokey – Slight rain @ 3:00 pm. Tagged tubing @ 3424' KB. Cleaned out 3 7/8" hole from 3424' to 3451'. Hard drilling. Could be drilling on float collar from 4 ½" casing. Total depth by operator 3451' KB. Shut down operations @ 6:00 pm.

Total Rig Hours: 10 hrs x \$260.00	=	\$2,600.00
Daily Pickup: 2 trucks x \$60.00	=	\$170.00
Pickup Travel: 2 hrs x \$45.00/man	=	\$270.00
Fuel Surcharge: 10%	=	\$370.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump and Tank	=	\$550.00
Power Swivel	=	\$550.00
Bit Sub	=	\$50.00
3 7/8" Bit	=	\$200.00
Trailer Rental	=	\$100.00
Pipe Dope	=	<u>\$25.00</u>
<b>Total Costs</b>	=	\$5,235.00

# **Other Costs**

Winch Truck: \$165.00/hr 5 x \$165	.00	\$825.00
Tanker: 2 hrs x \$165.00/hr	=	\$330.00
Vacuum Truck: \$145.00/hr x 2 hrs	<b>s</b> =	\$290.00
<b>Environment Safety</b>	=	\$75.00
Fuel Surcharge	=	<b>\$144.00</b>
		\$1,664.50

Consulting: \$1500/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$\frac{\$60.00}{\$810.00}

Total Daily Costs = \$7,709.50

Friday September 16, 2022

55°F – Little Smokey – Little wind – Slight rain Began operations @ 8:00 am. Circulate & clean out well bore. Continue to torque up 3451'. Lose approximately 5 – 6 bbls of H2O overnight and while cleaning well bore. Drill on float collar on bottom & finish cleaning well bore. Trip out  $109 - 2 \ 3/8$ ", 4.7#/ft, J55, 8rd joints of tubing with 3 7/8" bit. Remove bit and change over and trip in hole with  $107 - 2 \ 3/8$ ", 4.7#/ft, J55, 8rd joints of tubing with 4 ½" x 2 3/8" AD-1 packer. Shut down operations @ 3:30 pm.

Total Rig Hours: 7 1/2hrs x \$260.00	0 =	\$1,950.00
Daily Pickup: 2 trucks = 2hrs x \$60.00		\$120.00
Pickup Travel: 2hrs x \$45.00/man		\$270.00
Fuel Surcharge: 10%	=	\$305.00
<b>Environmental &amp; Safety</b>	=	\$50.00
<b>Supervisor &amp; Tool Pusher</b>	=	\$350.00
Pump and Tank	=	\$550.00
Power Swivel	=	\$550.00
<b>Change Over for Bit</b>	=	\$50.00
Wellhead Rubber	=	\$300.00
Trailer	=	\$100.00
Pipe Dope	=	<b>\$25.00</b>
<b>Total Daily Costs</b>	=	\$4,620.00
1 day consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	\$60.00
		\$810.00
<b>Total Costs</b>	=	\$5,430.00

Monday September 19, 2022

60°F – Partly Cloudy

Began operations @ 8:00 am. Well on a vacuum. Set  $4\frac{1}{2}$ " x 2 3/8" AD-1 packer with 15,000#/s over string weight. Tubing string as follows:

3.00

**KB** 

Pressure tested and pressure up backside to 500#/s. Held OK. Acidized well with 100 gallons 28 Hcl. Acid job as follows:

Acid Job = 1000 gallons 28% Hcl

Pumped 1.0 bbls acid @ 1.5 bbl/min @ 500#/s Pumped 2.3 bbls acid @ 1.5 bbl/min @ 750#/s Pumped 10 bbls acid @ 1.5 bbl/min @ 1000#/s Pumped 10 bbls acid @ 1.5 bbl/min @ 1000#/s Total 23.8 bbls acid

Pumped 5.0 bbls of water after acid job. Shut down for 5 minutes and pressure dropped form 1000#/s to 500#/s.

Over-Displaced Acid job with 35 bbls as follows:

Pumping @ 3.0 bbls/min @ 1250#/s 10 bbls displaced

Pumping @ 3.0 bbls/min @ 1500#/s 10 bbls displaced

Pumping @ 3.0 bbls/min @ 1750#/s 10 bbls displaced

Pumping @ 3.0 bbls/min @ 1850#/s 5 bbls displaced

Total 35.0 bbls displaced

Instant Shut in = 1500#/s 5 min shut in = 1100#/s 10 min shut in = 900#/s 15 min shut in = 800#/s

Well flowed back 11.0 bbls after acid job. Tripped in with 3 7/8" bit and sub and tagged on the 100<sup>th</sup> joint. Tubing string as follows:

1-37/8" Bit = 2.50' 1-37/8" x 23/8" changeover sub = 1.10' 110 joints of 23/8" x 4.7#/ft, J55 8rd, ST&C Tubing = 3460.70' 3' KB = 3.00' Total String = 3467.30' KB

Drilled down on the  $110^{th}$  joint. Drilled fairly easy with a few tight spots. Shut down operations @ 6:00 pm

Total Rig Hours: 10hrs x \$260.00	=	\$2,600.00
2 Trucks: 2 x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/mar	ı =	\$270.00
Fuel Surcharge: 10%	=	\$370.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor & Tool Pusher	=	\$350.00
New 3 7/8" Bit	=	\$1,400.00
Pump and Circulating Tank	=	\$550.00
Power Swivel	=	\$550.00
Trailer	=	\$100.00
Tubing Wiper Rubber	=	\$25.00
Bit Changeover 3 7/8" x 2 3/8"	=	\$50.00
Pipe Dope	=	\$25.00
1 – 4 ½" AD-1 Packer (Acid Job)	=	<u>\$250.00</u>
		\$6,710.00
1000 gallon 28% Hcl Acid Job		
1 – Acid Pump Truck	=	\$1,600.00
1 – Bulk Acid Truck	=	\$750.00
Bulk Mileage: 4.00/mile	=	\$160.00
1000 gallons 28% Acid \$3.25/gallo	n	\$3,250.00
Additives	=	\$549.50
Fuel Surcharge: 10%	=	\$301.00
Environmental	=	\$75.00
2 Travel \$45.00/man	=	<b>\$90.00</b>
		\$7,164.50
1 1 6 14 01700/2		<b>6550.00</b>
1 day Consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	\$60.00
		\$810.00
<b>Total Daily</b>	=	\$14,684.50
i otai Dany		ψ1 <b>7,007.</b> 30

Tuesday September 20, 2022

49°F – Partly Cloudy – Wind from N to NW. Began operations @ 8:00 am. Picked up 111 joint and drilling. Tubing string as follows:

1 – 3 7/8" Bit	=	2.50'
1 - 37/8" x 2 3/8" change over	=	1.10'
111 joints 2 3/8" x 4.7#/ft		
J55, 8rd, ST&C Rge 3	=	3492.28'
Total String	=	3495.88'
3.0 KB	=	3.00°
		3498.88' KB

Drilled to total depth 3498.88 KB. Drilling fairly well. Drilling slows down after a break. Have not lost volume. Drilled to total depth 3499' KB Shut down operations @ 5:30 pm

TE / LD: II 01/1 02/00/		00 410 00
Total Rig Hours: 9 ½ hrs x \$260.00	)=	\$2,410.00
Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/hr/m	ıan	\$270.00
Fuel Surcharge: 10%	=	\$357.00
Environmental & Safety	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump and Tank	=	\$350.00
Power Swivel	=	\$550.00
Trailer	=	\$100.00
<b>BA Sub and Cross Over</b>	=	\$50.00
Pipe Dope	=	<b>\$25.00</b>
-		\$4,892.00
Consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	\$60.00
9		\$810.00

**Total Costs** 

Wednesday September 21, 2022

# 32°F - Sunny - No Wind

Began operations @ 8:00 am. Circulated and clean open hole to 3499' KB by operator. Circulated hole 30 minutes to clean to total depth. Tripped 3 7/8" bit and tubing out of hole. Tripped in 4  $\frac{1}{2}$ " x 2 3/8" AD-1 packer for acid job. Tubing string as follows:

\$5,702.00

Circulated corrosion inhibitor on the backside. Set  $4\frac{1}{2}$ " x 2 3/8" AD-1 packer set @ 3372.96 KB with 15,000 #/s over string weight. Pressure up backside to 500#/s. Held OK. Need to repair pump truck. Shut down operations @ 5:00 pm.

Total Rig Hours: 9 hrs x \$260.00 = \$2,340.00 Daily Pickup: 2 trucks x \$60/truck = \$120.00

Pickup Travel: 2 hrs x \$45.00/mar	<b>1</b> =	\$270.00
Fuel Surcharge: 10%	=	\$289.00
Environmental & Safety	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump and Tank	=	\$550.00
Power Swivel	=	\$200.00
Redress 4 1/2" AD Packer	=	\$500.00
Bit Crossover Sub	=	\$50.00
Dope	=	\$25.00
Trailer	=	<u>\$100.00</u>
<b>Total Daily Costs</b>	=	\$4,844.00
•		
Other Costs		
1 Pump Truck	=	\$750.00
Vacuum Truck: 2 hrs x \$145/hr	=	\$290.00
Environmental: \$75.00/day	=	\$75.00
Fuel Surcharge: 10%	=	\$104.00
<b>Total Costs</b>	=	\$1,219.00
		,
1 day Consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	<u>\$60.00</u>
Total Costs	=	\$810.00
<b>Total Daily Costs</b>	=	\$6,873.00
•		,

Thursday September 22, 2022

46°F – Cloudy – Slight Rain – Wind from SW Began operations @ 10:00 am. Moved in and rigged up Liquid Gold Well Service Acid Bulk Truck and Pump Truck. Acidized well with 1000 gallons 28% Hcl. Acid job as follows:

1000 gallons 28% Hcl Acid
23.8 bbls of Acid
13.55 bbls of tubing volume

Began job @ 10:52 am:

Pumped 28.0 bbls of acid from 300#/s to 800#/s @ 1.5 bbls/minute Finished pumping acid @ 800#/s @ 1.5 bbls/minute Shut down and pressure dropped to 500#/s

Displaced 48.0 bbls as follows

Pumped 13.5 bbls 110#/s @ 1.6 bbls/minute Over-displaced by 35bbls as follows

Pumped 5.0 bbls @ 1600#/s @ 3 bbls/minute Pumped 10.0 bbls @ 1650#/s @ 3 bbls/minute Pumped 10.00 bbls @ 1700#/s @ 3 bbls/minute Pumped 10.0 bbls @ 1700#/s @ 3 bbls/minute

# Pumped 48.5 bbls displacement

Instant shut in	=	1100#/s		
5 min shut in	=	650#/s		
10 min shut in	=	350#/s		
15 min shut in	=	200#/s		

Well in a vacuum. Rigged down Liquid Gold Well Service. Ran MIT test for state @ 3:00 pm. Pressured up backside to 345#/s. Slow leak. Moved packer and pulled 15,000#/s over packer. Pressure tested to 350#/s. Failed test. Pulled tubing and packer to repair leak. Shut down operations @ 5:30 pm

Total Rig Hours: 7 ½ hrs x \$260.0	0=	\$1,950.00
Daily Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/mai	n =	\$270.00
Fuel Surcharge: 10%	=	\$250.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump & Tank	=	\$500.00
Tailer	=	<u>\$100.00</u>
<b>Total Costs</b>	=	\$3,640.00

# **Acid Job**

1 Pump Truck	=	\$1,600.00
Bulk Acid Truck	=	\$750.00
<b>Bulk Mileage: 4.05/miles</b>	=	\$160.00
1000 Bulk Acid: 3.25/gallon	=	\$3250.00
Additions	=	\$684.50
Fuel Surcharge: 10%	=	\$280.50
2 Vacuum Trucks: \$145.00/load	=	\$290.00
<b>Environmental &amp; Safety</b>	=	<u>\$75.00</u>
<b>Total Costs</b>	=	\$7,254.50

# **MI Test**

Tanker Truck: 2 ½ hrs x \$165.00	=	\$412.50
Vacuum Truck: 2 ½ hrs x \$145.00	=	\$290.00
Pickup: 1 truck x \$60.00	=	\$60.00
Travel: 1 hr x \$45.00/man	=	\$90.00
Fuel Surcharge: 10%	=	<u>\$70.00</u>
<b>Total Costs</b>	=	\$922.50

1 day Consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	<u>\$60.00</u>
<b>Total Costs</b>	=	\$810.00

Friday September 23, 2022

55°F – Clear – Slight wind from the East Began operations @ 8:00 am. Tripped 2 3/8", 4.7#/ft, J55, 8rd, with 4 ½" scraper to 3373' KB. Added 10' tubing sub and cleaned to 3383 KB. Dropped standing valve and pressured tubing to 500#/s. Slow leak. Pressure testing tubing to 1000#/s. Could not find hole. Ran 45 joints, ran 24 joints and ran 12 joints would hold 1000#/s and slowly leak off. Ran 2 more joints would not hold. Ran 83 joints into hole. Shut down operation for night. Did not find tubing leak. Shut down operations @ 4:00 pm.

Total Rig Hours: 8 hrs x \$260.00	=	\$2080.00
Daily Pickup: 2 hrs @ \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/man	_	\$270.00
Fuel Surcharge: 10%	=	\$208.00
<b>Environmental and Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Redress 4 ½" AD-1	=	\$500.00
4 ½" Scraper	=	\$150.00
3 7/8" Bit on Scraper	=	\$200.00
Trailer	=	\$100.00
Pipe Dope	=	<u>\$25.00</u>
<b>Total Costs</b>	=	\$4,053.00

1 day Consulting: \$1500/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$\frac{\$60.00}{\$810.00}

ψ010.00

**Total Costs** \$4,863.00

Tuesday September 27, 2022

82°F – Clear – Wind from South 8 -10 mph Tripping in hole and pressuring tubing to find leak. Pressured to 2000#/s and Held OK. Added 2 joints and pressured to 2000#/s. Slow leak. Found leak on the 100<sup>th</sup> joint. Very small leak. Could not find without pressure on tubing. Tripped 2 3/8" x 4.7#/ft, J55 with 4'6" packer. Fished standing valve with sand line. Tubing string as follows. Replace 110 joint was 31.70' with a new joint of 31.60'.

1 – 4 ½" AD-1 Packer = 2.50' 1 – 2 3/8" Seating Nipple = 1.10'

107 joints 2 3/8", 4.7#/ft, J55

8rd tubing = 3366.26'

Total String = 3369.86 Gr

 $3.0' \text{ KB} = \frac{3.0'}{3372.86 \text{ KB}}$ 

Filled the backside with produced H2O. Ran MIT on well as follows

MIT Test Began @ 4:32 pm

<u>Time</u>	<b>Pressure</b>	Time Sch			
4:32 pm	360#/s	0			
4:37 pm	360#/s	4:37	5 minutes		
4:42 pm	360#/s	4:42	10 minutes		
4:47 pm	360#/s	4:47	15 minutes		

### **MIT Passed**

83°F – Sunny – 5 -10 mph from SW Passed MIT test. Shut down operations @ 5:00 pm

Total Rig Hours: 9hrs x \$260.00	=	\$2,340.00
Daily Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/man	=	\$270.00
Fuel Surcharge: 10%	=	\$249.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Water Truck: 2 hrs x \$75.00	=	\$150.00
Pipe Dope	=	\$25.00
D 1 41/9 4D 4 / 11		

Redress 4 ½" AD-1 (new rubber, shewing and labor) = <u>\$200.00</u> Total Costs = \$3,704.50

Consulting: \$1500/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$60.00 \$810.00

Total Cost = \$4,514.50

Wednesday September 28, 2022

Tuesday

**September 27, 2022** 

 $56^{\circ}F$  – Sunny – Slight wind @ 5-10 mph from S Began operations @ 8:00 am. Circulating hole with fresh water and corrosion inhibitor. Set  $4\frac{1}{2}$ " x  $2\frac{3}{8}$ " AD-1 with 12,000#/s over string weight. Test MIT and lost a few pounds. Pulled 22,000#/s over string weight. Ran MIT test for State Inspector Gary Klotz

<b>Time</b>	<b>Pressure</b>	<b>Elapsed Time</b>
9:56 am	378#/s	0
10:01 am	375#/s	5 min
10:06 am	375#/s	10 min

10:11 am 375#/s 15 min

Passed MIT @ 10:11 am. Passed by State of MT Inspector Gary Klotz. Rigged down Liquid Gold Well Service. Moved rig to yard. Shut down operations @ 11:00 am

Total Rig Hours: 3 hrs x \$260.00	=	\$780.00
Daily Pickup: 2 hrs x \$60.00	=	\$120.00
Rig Travel: 3 ½ hrs x \$45.00/man	=	\$785.00
Fuel Surcharge: 10%	=	\$158.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Water Truck: 2 hrs x \$75.00	=	<u>\$150.00</u>
<b>Total Costs</b>	=	\$393.00

Consulting: \$1500/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$\frac{\$60.00}{\$810.00}

Total Costs = \$3,203.00

Total Workover Costs = \$66,885.00

# **CHECK SHEET**

Date:	4/21/2008			API	Number:	073-218	30
Company:	AltaMent Oil & Gas	Inc. Mount	ain View	Energy Inc.			
Well Name:	Jody Field 34-1						
County:	Pondera						
Field:	Wildcat Pondera /	oneman Coul	ec				
Surf. Location:	330FSL 2310F	WL SE	SW Lo	ot: Sec:	34 Twp:	29 N Rng:	6W
Permit I	Number: 26562			Drilling Fe	e:		
Intentio	n to Drill: 4/21/2008	8		Expiration Da	te: 10/21/	2008	
Mineral	Ownership:	✓ Private	☐ State	☐ Federal	☐ Indian		
Well Ty	/pe: Vertical			☐ Multiple L	aterals		
Propose	ed Depth/Formation:	MD: 3450	TVD:		Sun Riv	ver Dolomite	
Drilling	Unit Acres	Descript	ion:				
Sample	s Required: 🗆			Received	:		
		COMPLET	TION INFOR	MATION			
Comple	tion Date: MAY (	2008	TD:	3543	PBTD:	NA	
Comple	AIII	. (	IP / Forma	0			
				MAG	Hison		
Geologi	cal Well Report:		Mud L	og:			
Sundry	Notices: Chg. of Op						
	Intent-addle	Madison 6	-6-11				
				_			
	al -						
Subsec	uent Report of Aband	onment: Re	ceived		Approved:		
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Miscella	aneous:						
						Lagrand Lagrand	

# **CHANGE OF OPERATOR RECORD**

JODY FIELD 34-1 29N, 6W, Sec. 34: SESW API #073-21830

TO: Mountain View Energy, Inc. FROM: Altamont Oil & Gas, Inc. DATE: August 17, 2010

Form No. 4 R 4-85

LOCATE WELL CORRECTLY 34

FEB - 5 2009

BOARD OF OIL AND GAS CONSERVATION MONTANA BOARD OF O'ARM 36.22.1013
OF THE STATE OF MONTANA
BILLINGS OR SHELBY

# COMPLETION REPORT

									#21. 1
	ALTAMONT C								ll No#34-1`
Address_P	O BOX 488	- CUT BAI	NK MT	59427	F	ield (or A	rea)WID	LCAT	10 at 2
The well is	located_330	ft. from	n (S) line	and 231	0 ft.	from (W)	line of Sec.	34	
Sec34	; T. 29N	_; R. 6W	; Cou	ntyPO	NDERA	-		; Elevation_	4071 GL (D.F., R.B. or G.L.)
Commence	d drilling_A	APRIL 30,	2008	, X	9; Co	ompleted	MAY 6,	2008	, 19
Write the A	PI# or the w	ell name o	of anothe	r well on	this lea	se if one	exists	1	
The info	ormation give on of the well	n herewith I at the ab	n is a com ove date.	plete and	correct	record of	the well. Th	esummaryo	n this page is for
	as OIL W	ELL			Signe	d M	delal		
	(oil well, gas	well, dry noie)			m:	DDEGTE	EK M. MONT ENT & CEC		
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	(c	lenote oil	by O, gas	by G, wa	ter by V	V; state fo	rmation if	known)	
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From	to				_ Fron		to		
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4-1/2"	10.5#/ft	J55	ST&C	3539.7	7	674.94	3535.71	100 Sacks	Class G Ceme
							-	371	
				TUBIN	G REC	ORD		<u> </u>	
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Cable tools	s were used	from	d back to		T.D	· Open he	ole from	t	.0
Total dept	3543	it.; Plugget	Dack to			., - [			
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3442' -	3446' 3-	1/8" HSD	- 17 SI	ots				1 1	
177						(I)	P&A show plu	gs above)	7545
				INITIAL	PRODU	CTION			
Well is pro	ducing from	MAG	dison		(]	oool) form	nation.		
0 1 6	ested 2 to	3 Derce	nt oil o	ut .	ours _				
I.P	ban	icis or on	P-01			(pumping	or flowing)		
	_Mcf of gas per_	h	ours.				Q/	W C	
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JAN -7 2009

MONTANA BOARD OF OIL & GAS CONS. BILLINGS

# Electric Log Formation Tops

Cretaceous	<u>Depth</u>	<u>Datum</u>
Calarada		
Colorado Two Medicine		
Blackleaf	1780	+2296
Blackleaf Bentonite Marker	1820	+2256
Blackleaf Sandstone	1826	+2250
Base Fish Scales		
1 <sup>st</sup> Bow Island	1878	+2198
2 <sup>nd</sup> Bow Island	2030	+2046
3 <sup>rd</sup> Bow Island	2132	+1944
4 <sup>th</sup> Bow Island "A"	2376	+1700
4 <sup>th</sup> Bow Island "B"	2423	+1653
Dakota	2544	+1532
Kootenai	2586	+1490
Sunburst	3081	+995
<u>Jurassic</u>		
Morrison	3152	+924
Swift	3186	+890
Swift Shale	3274	+802
Rierdon(Ellis Shale)	3327	+749
Sawtooth	3404	+672
Sawtoodi		
Mississippian		
<u>1</u> 111331331 <u>p</u> 51411		
Madison(Sun River Dolomite)	3428	+648
,		
Total Depth:	3543	+533
Total Deptil.	5515	

FORM NO. 22 R7/99 SUBMIT IN QUADRUPLICATE TO: ARM 36.22.307 ARM 36.22.601 Lease Name:  JODY FIELD #34-1									
		IL AND GAS C		Lease Type			derai):EIVED		
2555 51. 30		, BILLINGS, Mation for Permit	-	Well Numb	er:				
34-1 APR 1 4 2008									
Field Manner and Mild at 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									
WILDCAT									
Address PO BOX 488 Objective Formation(s):									
City CUT BANK State MT ZIP 59427 BOW ISLAND, SUNBURST & MADISON Section Township and Range:									
Telephone Number (406) 873-9000 Section, Township, and Range: SECTION 34-T29N, R6W									
,		arter section and fo	otage measure	ements	s)	County:		,	
	34-T29N-R6W	1							
(330' FSL x	2310' FWL)								
						PONDERA			
(if directionally drilled, show	both surface and bottom ho	ole locations above)							
Proposed total d	epth F	ormation at total	depth	Eleva	ation	(indicate G	L or KB)		
3,450'	M	MADISON/SUN R	TVED		7. (	071' GL			
		acing unit API		other v			(if any)	Anticin	pated spud date
Cizo di la docum	and or an image oper	aomy ame	idilibor or aric	011101 1	WOII C	on and load	o (ii aiiy)	Antioip	acca spaa date
40 ACRES (S	ESW)								
Hole size	Casing size	Weight/foot	Grade (API)	1	Depth		Sacks of C	ement	Type of Cement
	7"				Верин				
8-3/4" 6-1/4"	,	17#/ft	J55		650'		245 sx		Class G
0-1/4	4-1/2"	9.5#/ft	J55		3,450'		100 sx		Class G
						A			
Describe Proposed Operations:  Describe or attach labeled diagram of blowout preventer equipment. Indicate if air drilled or describe mud program.  Altamont Oil & Gas, Inc proposes to drill this well to test for oil and or gas in the Bow Island, Sunburst & Madison formations. No DST's or cores are planned. Surface casin will be cemented from surface to approximately 650' ensuring good returns to surface. The well will be drilled with air and drilling mud from casing point to TD. Open hole logs will be run from surface to TD. Production zones will be perforated & tested.  Blowout equipment will be as indicated on the attached exhibit and will be tested at regular intervals.									
BOARD USE OF	NLY						1/	1	7
Approved (date)  APR 2 1 2009 Permit Fee  By Check Number 10003 11650  OCT 2 1 2008  The undersigned hereby certifies that the information contained on this application is true and correct:  Signed (Agent) Patrick M. Montalban									
TitleTITLE	DINGFECTOR	21	562		Pre	esident 8	& CEO		
THIS PERMIT IS SUB. CONDITIONS OF APP STATED ON THE BAC	JECT TO THE ROVAL	mber 25- 073		Title _		9/2008	. 0.10		
		/							
Samples Required:	NONE		FROM_						
Core chips to addr	ess below, full cores	to USGS, Core Labor Montana Bos	atory, Arvada, Co ard of Oil and Ga				pe washed,	aried and	delivered prepaid to:
2525 St. Johns Avenue Billings, MT 59102									

SUPPLEMENTAL	INFORMATION

Note: Additional information or attachments may be required by Rule or by special request.

- X1. Attach a survey plat certified by a registered surveyor. The survey plat must show the location of the well with reference to the nearest lines of an established public survey.
- X 2. Attach an 8½ x 11" photocopy of that portion of a topographic map showing the well location, the access route from county or other established roads, residences, and water wells within a½ mile radius of the well.
- X3. Attach a sketch of the well site showing the dimensions and orientation of the site, the size and location of pits, topsoil stockpile, and the estimated cut /fill at the corners and centerstake. (Note: the diagram need not be done by an engineer or surveyor.) Attach a sketch of a top view and two side views of the reserve pit(s), if utilized. The reserve pit sketch must show the length, width, depth, cut and fill, amount of freeboard, area of topsoil stockpile, and the height and width of berms.
  - 4. Describe the type and amount of material or liner, if any, to be used to seal the reserve pit. If a synthetic liner is used, indicate the liner thickness (mils), bursting strength, tensile strength, tear strength, puncture resistance, hydrostatic resistance, or attach the manufacturer's specifications. N/A
  - 5. Describe the proposed plan for the treatment and/or disposal of reserve pit fluids and solids after the well is drilled. If the operator intends to dispose of or treat the reserve pit contents off-site, specify the location and the method of waste treatment and disposal. (Note: The operator must comply with all applicable federal, state, county, and local laws and regulations with regard to the handling, transportation, treatment, and disposal of solid wastes.) N/A
- 6. Does construction of the access road or location, or some other aspect of the drilling operation require additional federal, state, or local permits or authorizations? If yes, indicate the type of permit or authorization required:

X	No additional permits needed
	Stream crossing permit (apply through county conservation district)
	Air quality permit (apply through Montana Department of Environmental Quality)
	Water discharge permit (apply through Montana Department of Environmental Quality)
	Water use permit (apply through Montana Department of Natural Resources and Conservation)
	Solid waste disposal permit (apply through Montana Department of Environmental Quality)
	State lands drilling authorization (apply through Montana Department of Natural Resources and Conservation)
	Federal drilling permit (specify agency)
	Other federal, state, county, or local permit or authorization: (specify type)
OTICE	ES:

#### NO

- 1. Date and time of spudding must be reported to the Board verbally or in writing within 72 hours after the commencement of drilling operations.
- 2. The operator must give notice of drilling operations to the surface owner as required by Section 82-10-503, MCA, before the commencement of any surface activity.

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CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

WARNING: Failure to comply with conditions of approval may void this permit.

# WELL LOCATION

APR 1 4 2008

FIELD #34-1
SE1/4SW1/4 SECTION 34, T29N, R6W, P.M.M.
PONDERA COUNTY, MONTANA 330' FSL X 2310' FWL

MONTANA BOARD OF OIL & GAS OONS. BILLINGS

ELEVATION BEFORE GRADING: 4071'

	_ 4			
CALE 1'=1000'	NW1/4SW1/4	3 NE1/4SV1/4	<b>4</b> —	NE1/4SE1/4
У Л	SW1/4NW1/4	SE1/4NW1/4	SW1/4NE1/4	SE1/4NE1/4
	NW1/4NW1/4	NE1/4NW1/4	NW1/4NE1/4	NE1/4NE1/4

ELEVATION BEFORE GRADING: 4071' BASIS - NAVD 29

GEOGRAPHIC COORDINATES: 48°13'21.9' N 112°22'16.1' W (NAD 83 BASIS)

BASE POSITION FOR GEOGRAPHIC COORDINATES: 48\*12'38.97587' N 112\*22'44.76679' W (NAD 83 BASIS) (NGS CONTROL POINT CONE, THIRD ORDER)

LAND USE: CULTIVATION (CRP)

NO ATTEMPT HAS BEEN MADE BY THE SURVEYOR TO LOCATE UNDERGROUND STRUCTURES OR BURIED UTILITIES, AND APPROPRIATE AGENCIES AND SURFACE LANDOWNERS MUST BE CONTACTED FOR FIELD LOCATION OF ANY UNDERGROUND STRUCTURES OR BURIED UTILITIES

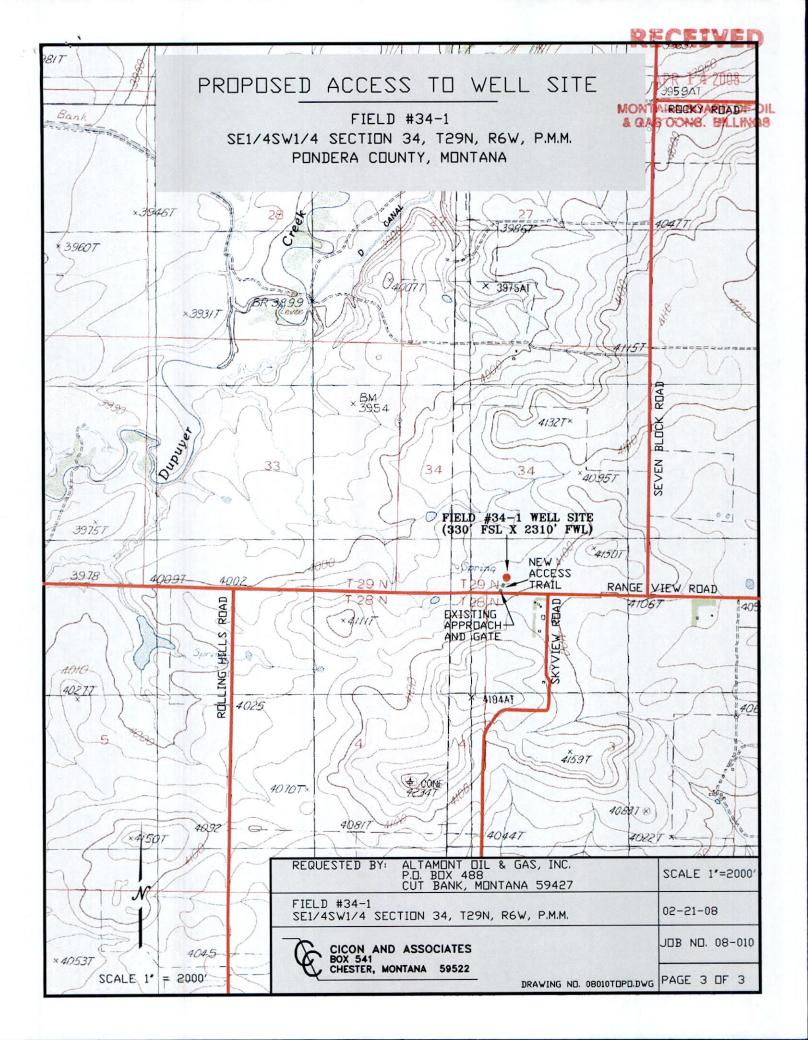
BEFORE ANY CONSTRUCTION COMMENCES. CALL 1-800-424-5555 BEFORE ANY CONSTRUCTION COMMENCES.

NOTE: SUBDIVISION LINES AND GOVERNMENT LOT BOUNDARIES ARE SHOWN FOR DEPICTIVE PURPOSES ONLY AND SHOULD NOT BE USED FOR SCALING OR LOCATION PURPOSES.

ON THE BASIS OF MY KNOWLEDGE, INFORMATION AND BELIEF, I CERTIFY THAT AS A RESULT OF A SURVEY MADE ON THE GROUND TO THE NORMAL STANDARD OF CARE OF PROFESSIONAL LAND SURVEYORS PRACTICING IN THE STATE OF MONTANA, I FIND THE LOCATION OF THE FIELD #34-1 AS SHOWN ON THE SUBJOINED DRAWING.

> 04039 LS JOHN M. CICON

REQUESTED BY: ALTAMONT DIL & GAS, INC. P.D. BOX 488 CUT BANK, MONTANA 59427	SCALE 1'=1000'
FIELD #34-1 SE1/4SW1/4 SECTION 34, T29N, R6W, P.M.M.	02-21-08
CICON AND ASSOCIATES	JDB ND. 08-010
CHESTER, MONTANA 59522  DRAVING NO. 08010ALTASIG.DW	SHEET 1 DF 3



# RIG PAD SITE

RECEIVED

FIELD #34-1 SE1/4SW1/4 SECTION 34, T29N, R6W, P.M.M. PONDERA COUNTY, MONTANA

APR 1 4 2008

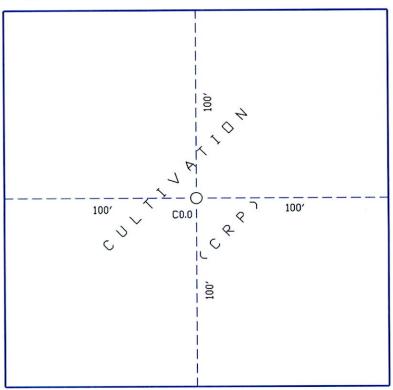
MONTAHA BOARD OF OIL & GAS OONS. BILLINGS

F 3.3'

C 3.7'

F 2.0'

C 4.7'



GENERAL CUTS AND FILLS OF PROPOSED RIG PAD

LAND USE: CULTIVATION (CRP)

ELEVATION OF LOCATION BEFORE GRADING: 4071' BASIS OF ELEVATIONS: NAVD 29

NOTE:

CUTS AND FILLS NOTED ARE FOR PURPOSES OF DESCRIBING THE GENERAL TOPOGRAPHY OF THE PROPOSED RIG PAD AND ARE NOT INTENDED FOR CALCULATION OF DIRTWORK QUANTITIES OR OTHER CALCULATIONS.

SCALE 1' = 50'

REQUESTED BY: ALTAMONT DIL & GAS, INC. P.D. BOX 488 CUT BANK, MONTANA 59427	SCALE 1'=50'
FIELD #34-1 SE1/4SW1/4 SECTION 34, T29N, R6W, P.M.M.	02-21-08
CICON AND ASSOCIATES	JOB NO. 08-010
CHESTER, MONTANA 59522	SHEET 2 DF 3

# RECEIVED

APR 1 4 2008

MONTANA BOARD OF OIL

& GAS OONS. BILLINGS

LOCATION LAYOUT

Gasco Drilling LLC

Fax (406) 434-3863

Phone

TOOL PUSHER TRAILER GENERATOR ROOM 2000 GAL FUEL TANK 1050 X 350 160 BBL Air Compressor Mud WATER TANK Pump INGERSOLL RAND **RD 10** DRILL RIG DOG Suction HOUSE 10' Pit Settling Pit WET PIT <--8'---> 12FT X 12 FT Trench 60 ft ---CELLAR RAMP- > DRILL PIPE WALKINEER TRAILOR ARM Drillpipe racks Casing Racks V

12 FT X 12 FT 6 FT DEEP

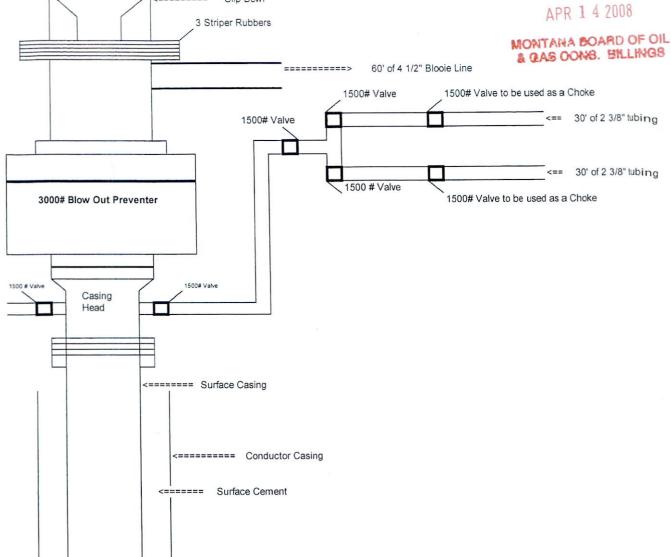
DIMENSIONS OF LOCATION: 200 X 200

SETTLING PIT IS 6' WIDE BY 45' LONG . SUCTION PIT 8' WIDE BY 10' LONG

P.O. Box 963

Shelby, Mt 59474

# RECEIVED



<====== Slip Bowl

**BOP STACK** 

...

RECEIVED

MAY 2 8 2004

ALTAMONT OIL & GAS, INC

APR 1 4 2008

REGAN OFFSHORE INTERNATIONAL, INC.

Torrance, College GAS OONS. BILLINGS

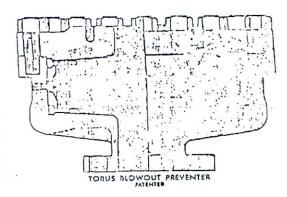
#### REGAN BLOWGUT PREVENTERS

The Regan Torus Blowout Preventer is used primurily on production and workover rigs for well control up to 2000 PSI working pressure

#### DISIGN FLATURIS

- The Thrus Preventer is designed for mininum height to inciliate its use with production and workover rigs.
- b The rubber packer will conform to any object in the well hore. Scaling ability is not affected by minor damage to the inner bore. The packer will Seal on open hole at full working pressure.

The dual packer design increases the reliability of the preventer since the outer rubber is never exposed to the well bore. Under ordinary service, the outer packer is rurely replaced.



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1	) to0	314	3.	114/	3430	Non. 1	13	15.0%	

# **B.O.P. SPECIFICATIONS**

FORM NO. 2 R 10/09

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1306, 1309, and 1417

Submit In Quadruplicate To:

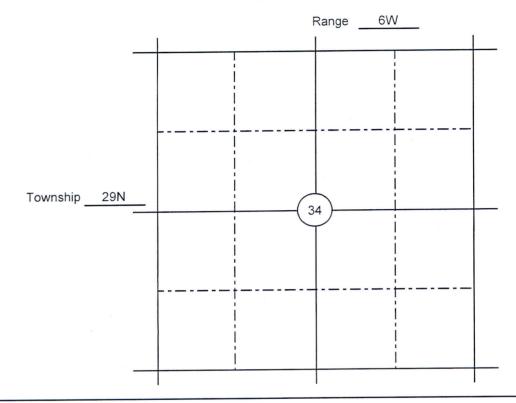
# MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS MONTANA 59102

SUNDRY NOTICES AND REPORT OF WELLS  Operator MOUNTAIN VIEW ENERGY, INC Address PO BOX 200  City CUT BANK State MT Zip Code 59427 Telephone 406-873-2235 Fax 406-873-2835  Location of well (1/4-1/4 section and footage measurements): SSESSW-SECTION 34-T28N-R6W (330° FSL - 2310° FWL)  API Number:  25 1 073   21830	BILLINGS, MONTANA 59102								
Address PO BOX 200  City CUT BANK State MT Zip Code 59427 Trelephone 406-873-2235 Fax 406-873-2835 Location of well (1/4-1/4 section and footage measurements): SESESIA-SECTION 34-T29N-R6W (330*FSL - 2310*FWL)  API Number:  API Number:  Well Type (oil, gas, injection, other):  Oil  Type (Private/State/Federal/Tribal/Allotted): PRIVATE  Township, Range, and Section: SECTION 34-T29N-R6W County: PONDERA  Indicate below with an X the nature of this notice, report, or other data: Notice of Intention to Change Plans Notice of Intention to Rum Mechanical Integrity Test Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Abandon Well Notice of Intention to Abandon Well Notice of Intention to Change Well Status Subsequent Report of Well Abandonment Subsequent Report of Production Waste Disposal Subsequent Report of Drilling Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Drilling Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in Well Status Subsequent Report of Drange in	SUNDRY NOTICES AND REPORT OF WELLS								
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Telephone 406-873-2235  Telephone 406-873-2235  Telephone 406-873-2235  Fax 406-873-2835  Location of well (1/4-1/4 section and footage measurements):  SESESW-SECTION 34-T29N-R6W (330' FSL - 2310' FWL)  Well Type (oil, gas, injection, other):  Township, Range, and Section:  SECTION 34-T29N-R6W  County: PONDERA  Indicate below with an X the nature of this notice, report, or other data:  Notice of Intention to Change Plans Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Change Well Status Subsequent Report of Production Waste Disposal Notice of Intention to Change Well Status Supplemental Well History  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed Operations or the completion date for completed operations.  SEE  STIPULATIONS  ON BACK  The undersigned Report of Complete Waste the Information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  Patie M. Montalban, President & CEO  Print Name and Title  County:  PonDera  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation (See 172)  Investigation	Address PO BOX 200								
Telephone 406-873-2235 Fax 406-873-2835  Location of well (1/4-1/4) section and footage measurements):  SESEW-SECTION 34-729N-R6W  (300 FSL - 2310 FWL)  API Number:  25	City CUT BANK State I	MT Zip Code 59427							
SESESW-SECTION 34-T29N-R6W  (330 FSL - 2310 FWL)  API Number:  Well Type (oil, gas, injection, other):  OIL  OIL  Township, Range, and Section: SECTION 34-T29N-R6W  County: PONDERA  Indicate below with an X the nature of this notics, report, or other data:  Notice of Intention to Change Plans Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforation or Cementing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Change Well Status Subsequent Report of Pulled or Altered Casing Notice of Intention to Change Well Status Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)  Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  BOARD USE ONLY  Approved  AUG 1 2011  Date  Original Signed By George Hudak, UIC Director	Telephone 406-873-2235	Fax 406-873-2835							
API Number:  API Number:  API Number:  Well Type (oil, gas, injection, other):  Oil  County: PONDERA  Indicate below with an X the nature of this notice, report, or other data:  Notice of Intention to Change Plans Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Stimulation or Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforate or to Cement Notice of Intention to Stimulation or Crementing Notice of Intention to Abandon Well Notice of Intention to Perforate or to Cement Notice of Intention to Change Well Status Subsequent Report of Well Abandonment Notice of Intention to Change Well Status Subsequent Report of Perforation or Cementing Notice of Intention to Change Well Status Subsequent Report of Production Waste Disposal Notice of Intention to Pull or After Casing Notice of Intention to Change Well Status Subsequent Report of Production Waste Disposal Supplemental Well History Other (specify) CONVERT TO INJECTION WELL  Describe Proposed or Completed Operations:  Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  SEE  STIPULATIONS ON BACK  The undersigned-Higrety Certifies tight the information contained on this application is frue and carrect.  6/21/20 The University of the Status Signed (Agent) Patrick M. Montalban, President & CEO Print Name and Title Patrick M. Montalban, President & CEO Print Name and Title Patrick M. Montalban, President & CEO Print Name and Title	SESESW-SECTION 34-T29N-R6W	d footage measurements):							
API Number:    Verification   Verifi			LONEMAN COULEE						
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Notice of Intention to Change Plans  Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Abandon Well Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Change Well Status Subsequent Report of Drilling Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)  Describe Proposed or Completed Operations:  Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  SEE STIPULATIONS ON BACK  The undersigned Fereby Certifies that the information contained on this application is frue and correct.  6/21/20  Date  Original Signed By George Hudak, UIC Director  Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casi		OIL							
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BOARD USE ONLY  Approved AUG 1 1 2011 Date Original Signed By George Hudak, UIC Director  Date Original Signed By George Hudak, UIC Director  SEE STIPULATIONS ON BACK  The undersigned hereby certifies that the information contained on this application is true and correct.  6/21/2011 Date Signed (Agent) Patrick M. Montalban, President & CEO Print Name and Title	Notice of Intention to Run Mechanic Notice of Intention to Stimulate or to Notice of Intention to Perforate or to Notice of Intention to Abandon Well Notice of Intention to Pull or Alter Ca Notice of Intention to Change Well S Supplemental Well History	cal Integrity Test  Chemically Treat  Cement  asing  Status  ECTION WELL	Subsequent Report of Stimulation or Treatment Subsequent Report of Perforation or Cementing Subsequent Report of Well Abandonment Subsequent Report of Pulled or Altered Casing Subsequent Report of Drilling Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)						
BOARD USE ONLY  Approved AUG 1 1 2011  Date  Original Signed By  George Hudak, UIC Director  The undersigned hereby certifies that the information contained on this application is true and correct.  6/21/2014  Date  Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Title									
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BOARD USE ONLY  Approved AUG 1 1 2011  Date			ON BACK						
BOARD USE ONLY  Approved AUG 1 1 2011  Date			The undersigned berefy certifies that the information contained on						
Approved AUG 1 1 2011  Date Date Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Title  (406) 873, 2235	BOADDIISE	ONLY							
Date Signed (Agent)  Original Signed By Patrick M. Montalban, President & CEO  Print Name and Title  (406) 873, 2335	ALIO 1 1 2011	JIL I	6/21/2011 Salt M.						
George Hudak, UIC Director  Print Name and Title	/ tppiovou	_	Date Signed (Agent)						
(406) 873 2235									
Tidino	Name	Title							

# SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



#### **BOARD USE ONLY**

# CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

- · Injection well bond required before injecting.
- · MIT required before injecting.
- · Set packer 3328 ft. or deeper
- · Injection pressure limited to 1,019 psig.
- before injecting. (sent to EPA 7-28-11).

Failure to comply with the conditions of approval may void this permit.

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1305, 1309, and 1417

# Submit In Quadruplicate To:

# MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS, MONTANA 59102

JUN - 6 2011

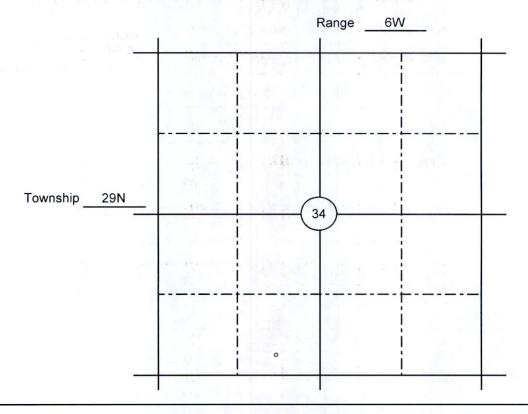
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SUNDRY NOTICES AN	ID REPORT OF WELLS & GAS CONS. BILLINGS
Operator MOUNTAIN VIEW ENERGY, INC  Address PO BOX 200  City CUT BANK State MT Zip Code 59427  Telephone 406-873-2235 Fax 406-873-2835  Location of well (1/4-1/4 section and footage measurements):  SESESW-SECTION 34-T29N-R6W (330' FSL - 2310' FWL)  API Number: Well Type (oil, gas, injection and section and section and section and footage measurements):  ONL  Well Type (oil, gas, injection and sectio	Lease Name: JODY FIELD  Type (Private/State/Federal/Tribal/Allotted): PRIVATE  Well Number: 34-1  Unit Agreement Name:  Field Name or Wildcat: LONEMAN COULEE  Township, Range, and Section:
Indicate below with an X the nature of this notice, report, or other  Notice of Intention to Change Plans  Notice of Intention to Run Mechanical Integrity Test  Notice of Intention to Stimulate or to Chemically Treat  Notice of Intention to Perforate or to Cement  Notice of Intention to Abandon Well  Notice of Intention to Pull or Alter Casing  Notice of Intention to Change Well Status  Supplemental Well History  Other (specify)	data:  Subsequent Report of Mechanical Integrity Test Subsequent Report of Stimulation or Treatment Subsequent Report of Perforation or Cementing Subsequent Report of Well Abandonment Subsequent Report of Pulled or Altered Casing Subsequent Report of Drilling Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)
Describe Proposed or Describe planned or completed work in detail. Attach maps, well-bore or necessary. Indicate the intended starting date for proposed operations of Move in and rig up. Dig drill hole to swab test. Perforate from 3448'-345 3452'-3460' 3460'-3466' 3470'-3480' 3480'-3490' 3490'-3496 Rig up Liquid Gold Well Service and acidize well with 1,000 gallons of 28' Run 4-1/2" packer and tubing in hole. Set packer at 3400'. Test packer	or the completion date for completed operations.  2' and swab test for 4 hours. Additional perforations:
Approved JUN 0 6 2011 Date CHIEF FIELD INSPECTOR Name Title	Date Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Title  Telephone: (406) 873-2235

# SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



### **BOARD USE ONLY**

### CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.



# SPUD INFORMATION

MAY - 5 2008

MONTANA BOARD OF OIL

WELL NAME: Jody Field 34-1	COMB. BILLINGS
API#: 25-673-21830	
LOCATION: S 34 T 29 N 6W SE (Twp-Rge-Sec: 1/4 1/4)	SW
SPUD TIME: Actu DATE: 4-30-08	nal 🔀
DRILLING COMPANY: Gaseo RIG#:# 7	
CALLER'S NAME: Patrick Montalbar	
COMPANY NAME: altamont Oil + G	as, Tue
OTHER:	

# Montana Board of Oil and Gas Conservation Environmental Assessment

Operator: Altamont Oil & Gas, Inc.

Well Name/Number: Jody Field 34-1	
Location: SE SW Section 34 T29N R6W	
County: Pondera MT; Field (or Wildcat) Wildcat	
Air Quality	
(possible concerns)	
Long drilling time: No, 4 to 5 days drilling time.	
Unusually deep drilling (high horsepower rig): No, 3450' TD	
Possible H2S gas production: Yes	
In/near Class I air quality area: <u>No</u>	
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit requ	<u>ired</u>
<u>under 75-2-211.</u>	
Mitigation:	
X Air quality permit (AQB review)	
_ Gas plants/pipelines available for sour gas	
Special equipment/procedures requirements Other:	
Comments: No special concerns – using small rig to drill to 3450' TD.	
Comments. No special concerns – using smalling to unit to 5450 TD.	
Water Quality	
(possible concerns)	
Salt/oil based mud: No, freshwater, freshwater mud system, air, air mist.	
High water table: No	
Surface drainage leads to live water: No, closest drainages are some unnamed	
ephemeral tributary drainages to Dupuyer Creek, about 3/8 of a mile to the west and	1/2
mile to the northwest from this location.	
Water well contamination: No, closest water wells are about 3/4 of a mile to the nor	
and south of this location and these wells are 207' and 90' in depth. Surface casing	WIII
be drilled with air and/or freshwater mud to 650' and steel surface casing set and cemented to surface from 650'. Small spring located on topographic map, about 1/8	ofa
mile to the northwest from this location.	or a
Porous/permeable soils: No, sandy bentonitic soils.	
Class I stream drainage: No	
Mitigation:	
Lined reserve pit	
X Adequate surface casing	
Berms/dykes, re-routed drainage	
Closed mud system	
Off-site disposal of solids/liquids (in approved facility)	
Other:	
Comments: 650' of surface casing will be set and cemented to surface adec	
to protect freshwater zones. Also, fresh water mud systems or air to be used for dri	iing
surface hole.	

Soils/Vegetation/Land Use

(possible concerns)				
Steam crossings: No, no stream crossings.				
High erosion potential: No, small cut, up to 4.7' and small fill, up to 3.3', required.				
Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If				
productive unused portion of drillsite will be reclaimed.				
Unusually large wellsite: No. 200'X200' location size required.				
Damage to improvements: No, surface use is cultivated field (CRP).  Conflict with existing land use/values: Slight				
Mitigation				
Avoid improvements (topographic tolerance)				
Exception location requested				
X Stockpile topsoil				
Stream Crossing Permit (other agency review)				
X Reclaim unused part of wellsite if productive				
Special construction methods to enhance reclamation				
Other				
Comments: Access will be over existing county road, Barrett FLDS. A short road will				
be constructed, about 300' into this location. Drill cuttings will be buried in the unlined				
cuttings pit. Drilling fluids will be allowed to evaporate in the pits. No special concerns				
Health Hazards/Noise				
(possible concerns)				
Proximity to public facilities/residences: Closest residence buildings about 3/8 of a mile				
to the east of this location.				
Possibility of H2S: Yes				
Size of rig/length of drilling time: Small drilling rig/short 4 to 5 days drilling time.  Mitigation:				
X Proper BOP equipment				
Topographic sound barriers				
H2S contingency and/or evacuation plan				
Special equipment/procedures requirements				
Other:				
Comments: No concerns				
Wildlife/recreation				
(possible concerns)				
Proximity to sensitive wildlife areas (DFWP identified): None identified.				
Proximity to recreation sites: <u>Lake Frances about 7.5 miles to the northeast.</u>				
Creation of new access to wildlife habitat: None identified.				
Conflict with game range/refuge management: None identified.				
Threatened or endangered Species: None identified.				
Mitigation:				
Avoidance (topographic tolerance/exception)				
Other agency review (DFWP, federal agencies, DSL)				
Screening/fencing of pits, drillsite Other:				
Comments: Private surface lands. No concerns				

Historical/Cultural/Paleontological (possible concerns) Proximity to known sites: None identified, private surface. Mitigation avoidance (topographic tolerance, location exception) X other agency review (SHPO, DSL, federal agencies) Other: Comments: Private surface. No concerns. Social/Economic (possible concerns) \_\_ Substantial effect on tax base \_\_ Create demand for new governmental services Population increase or relocation Comments: No concerns. Remarks or Special Concerns for this site Well is a 3450' Madison Formation test. Summary: Evaluation of Impacts and Cumulative effects No, significant impacts expected, some short term impacts are expected, but should be able to mitigate these short term impacts. I conclude that the approval of the subject Notice of Intent to Drill (does/does not) constitute a major action of state government significantly affecting the quality of the human environment, and (does/does not) require the preparation of an environmental impact statement. Prepared by (BOGC): Steven Sasaki (title:) Chief Field Inspector Date: April 15, 2008 Other Persons Contacted: Montana Bureau of Mines and Geology, GWIC website (Name and Agency) Pondera County water wells (subject discussed) April 15, 2008 (date) If location was inspected before permit approval:

Inspection date:

nspector:		
Others present during inspection:		

BEFORE THE BOARD OF OIL AND GAS

CONSERVATION

CONSERVATION

INTENTION TO APPLY
FOR PERMIT TO DRILL

ALTAMONT OIL AND GAS WELL

ALTAMONT OIL & GAS. INC

1. PO Box 488
Cut Bank, Montana 59427

SE458W4 - Section 34-T29N-R6W

Ponders County, Montana
3,500 Fellos #34-1

STORI Depth Proposed to be Drilled.

3. Total Depth Proposed to be Drilled.

Notice is hereby given that an application for permit for drill an oil and gas well at the surface location set and before the depth as stated will be filed with the ant of Rules 36.22.601 and 36.22.604. Administrative Rules of Montana, an interested party may depard of Oil and Gas Conservation. Pursumand an opportunity to be heard by the Montana Baprication. SUCH DEMAND FOR HEARING MUST SURFACTION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) AND GAS CONSERVATION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) ACTED UPON BY THE BOARD'S PETROLEUMEN. THEIR NOTICE, OR THE APPLICATION OF GINEER WITHOUT HEARING, A DEMAND MUST. THEIR OWNERSHIP INTEREST IN THE LANDS SERVED DATON WHY A HEARING, INTEREST IN THE LANDS SERVED UPON THE APPLICATION WILL BE GINEER WITHOUT HEARING, A DEMAND MUST. THEIR OWNERSHIP INTEREST IN THE LANDS SERVED UPON THE APPLICANT BY COPY MALLED OF FAX TRANSMITTED TO THE ADDRESS SERVED UPON THE APPLICANT BY COPY MALLESS SET FORTH ABOVE.

Montana Board of Oil and Gas Conservation 2535 St. Johns Avenue Billings MT 59102 Office: (406) 656-0040 April 5, 2008

# AFFIDAVIT OF PUBLICATION STATE OF MONTANA,

County of Lewis & Clark,

() I V

APR - 9 2008

MONTAHA BOARD OF OIL & GAS CONS. BILLINGS

**Beverly Allison** 

Being duly sworn, deposes and says:

That she is the principal clerk of the Independent Record a newspaper of general circulation published daily in the City of Helena, in the County of Lewis & Clark, State of Montana, and has charge of the advertisement thereof:

That the Oil & Gas - Jody Fields #34-1

a true copy of which is hereto annexed, was published in said newspaper on the following dates: viz.: April 5, 2008

making in all\_\_\_\_\_publication(s)

weelly of alleson

day of April

Subscribed and sworn to before me this 5

Belmingan

NOTARY PUBLIC for the State of Montana Printed Name: Rose Marie Farr Residing at Helena, Montana My commission expires 8-15-2010

(NOTARIAL SEAL)

# Affidavit of Publication

RECEIVED

APR 1 4 2008

Montana Board of Oil & Gas Ooms. Billings

STATE OF MONTANA) County of Pondera) ss. John H Lee being duly sworn upon his oath says: That he is the Publisher of "The independent-Observer," a weekly newspaper of general circulation, published weekly at Conrad, in the County of Pondera, State of Montana. That the notice hereunto attached was published in the said "Independent-Observer" once each week for ... I. ve... successive weeks. That the first publication of said notice was on the That the last publication of said notice was on the That the said notice was published in the regular and entire issue of every said "Independent-Observer" during the period and time of said publication, and in the newspaper proper, and not in a supplement. Title: Publisher Sworn to and subscribed before me this 10 day of April , 20.08 Nancy Zelenka Notary Public for the State of Montana, residing at Conrad, Montana. My commission expires

June 1, 2010

CONSERVATION OF THE STATE OF MONTANA In the Matter of the application of TINTENTION TO APPLY ) FOR PERMIT TO DRILL ALTAMONT OIL & GAS, INC. OIL AND GAS WELL for a Permit to Drill an oil and gas well.) 1. PO Box 488 Cut Bank, Montana 59427 2. Jody Fields #34-1 SE/4SW/4 - Section 34-T29N R6W (330' FSL x 2310' FWL) Pondera County, Montana 3. Total Proposed Depth: 3,450' Notice is hereby given that an application for permit to drill an oil and gas well at the surface tocation set forth above to the depth as stated will be filed with the Montana Board of Oil and Gas Conservation. Pursuant to Rules 36.22.601 and 36.22.604, Administrative Rules of Montana, an interested party may demand an epportunity to be heard by the Montana Board df Oil and Gas Conservation concerning the application. SUCH DEMAND FOR HEARING MUST BE RECEIVED BY THE MONTANA BOARD OF OIL AND GAS CONSERVATION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) DAYS AFTER THE DATE OF PUBLICATION OF THIS NOTICE, OR THE APPLICATION WILL BE ACTED UPON BY THE BOARD'S PETROLEUM ENGINEER WITHOUT HEARING. A DEMAND MUST: (1) SET FORTH THE NAME, AD-PRESS AND TELEPHONE NUMBER OF EACH INTERESTED PARTY, THEIR OWNERSHIP INTEREST IN THE LANDS SURROUNDING THE PROPOSED WELL. AND THE REASONS WHY A HEARING IS SOUGHT; (2) BE SERVED I IRONLTHE ARRESCANT BY CORY MALE FOR OR FAX TRANSMITTED TO THE ADDRESS SET FORTH ABOVE. Montana Board of Oil and Gas Conservation

BEFORE THE BOARD OF OIL AND GAS

LEGAL NOTICE

RECEIVED APR 1 1 2008

2535 St. Johns Avenue

Published April 10, 2008

Billings MT 59102 Office: (406) 656-0040 Fax: (406) 655-6015 05/05/2008 12:37 4064343963 GASCO DRILLING PAGE 01/01

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# LIQUID GOLD WELL SERVICE, INC.

Cement Work Order Phone 406-873-2966 Fax 406-873-2997

Rev. 4-07

## RECEIVED

P.O. Box 757 Cut Bank, MT 59427

1 ax 400-07	3-2991		JUN - 9 2008		Cut Bank, IVIT 59427
				Invoi	ce #
Company	Altan	ont	MONTANA BOARD OF OIL & GAS CONS. BILLINGS	Date 5	1-08
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City/State				County Pa	nocea
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# LIQUID GOLD WELL SERVICE, INC.

Ceme	nt Work Order
Phone	406-873-2966
Fox	406 972 2007

Rev. 4-07

#### RECEIVED

Fax 406-87				- 100	P.O. Box 757 Cut Bank, MT 59427
		1	JUN - 9 2008	Invoice #	2048
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#### RECEIVED

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Original - Please pay from this Invoice - Due 30 days from above date.

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DDRESS	Compe	etition Wireline Services	is requested to perform th	e following services	according to the ter			s order.	
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Sales Tax

**TOTAL CHARGES** 

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Original - Please pay from this invoice - Due 30 days from above date.

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1306, 1309, and 1417



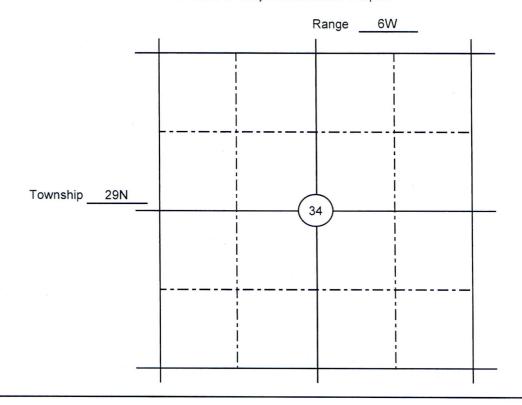
Submit In Quadruplicate To:

MONTANA BOARD OF OIL A 2535 ST. JOHI BILLINGS, MOI	NS AVENUE NTANA 59102 MONTANA BOARD OF OIL
SUNDRY NOTICES AND	REPORT OF WELLS
Operator MOUNTAIN VIEW ENERGY, INC  Address PO BOX 200  City CUT BANK State MT Zip Code 59427  Telephone 406-873-2235 Fax 406-873-2835  Location of well (1/4-1/4 section and footage measurements):  SESESW-SECTION 34-T29N-R6W (330' FSL - 2310' FWL)  API Number: Well Type (oil, gas, injection	Lease Name: JODY FIELD  Type (Private/State/Federal/Tribal/Allotted): PRIVATE  Well Number: 34-1  Unit Agreement Name:  Field Name or Wildcat: LONEMAN COULEE  Township, Range, and Section:
25   073   21830 INJECTION State County Well Indicate below with an X the nature of this notice, report, or other d	County: PONDERA
Notice of Intention to Change Plans Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforate or to Cement Notice of Intention to Abandon Well Notice of Intention to Pull or Alter Casing Notice of Intention to Change Well Status Supplemental Well History Other (specify)  Describe Proposed or C Describe planned or completed work in detail. Attach maps, well-bore connecessary. Indicate the intended starting date for proposed operations or Moved in and rigged up General Well Service Rig #12. Rigged up Competit Competition Wireline Services and swab tested well. Rigged up Competiti 3470' - 3480', 3452' - 3466'. Rigged down Competition Wireline Services and S	offiguration diagrams, analyses, or other information as the completion date for completed operations.  ition Wireline Services and perforated 3448' - 3452'. Rigged down ion Wireline Services and perforated from 3490' - 3493', 3480' - 3490',
BOARD USE ONLY  Approved AUG 1 8 2011  Date  Original Signed By George Hudak, UIC Director  Name  Title	The undersigned hereby certifies that the information contained on this application is true and correct:  08/03/2011  Date Signed (Agent)  Joseph P. Montalban, Chief Operating Officer  Print Name and Title  Telephone: (406) 873-2235

#### SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



		USE		V
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#### **CONDITIONS OF APPROVAL**

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

Submit In Quadruplicate To:

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1306, 1309, and 1417

# MONTANA BOARD OF OIL AND GAS CONSERVATION

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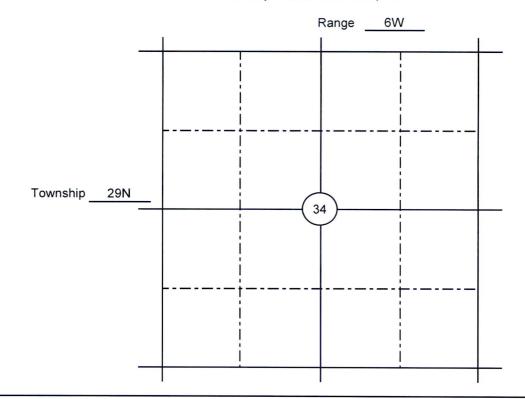
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	2535 ST. JOHI BILLINGS, MON	PRONTANA BUARD OF
S	UNDRY NOTICES AND	D REPORT OF WELLS
Operator MOUNTAIN VIEW ENER Address PO BOX 200  City CUT BANK State I  Telephone 406-873-2235  Location of well (1/4-1/4 section and SESESW-SECTION 34-T29N-R6W (330' FSL - 2310' FWL)	ERGY, INC  IT Zip Code 59427  Fax 406-873-2835	Lease Name: JODY FIELD  Type (Private/State/Federal/Tribal/Allotted): PRIVATE  Well Number: 34-1  Unit Agreement Name:  Field Name or Wildcat: LONEMAN COULEE
API Number:  25   073   21830  State County Well	Well Type (oil, gas, injection INJECTION	Township, Range, and Section: SECTION 34-T29N-R6W  County: PONDERA
	cal Integrity Test  Chemically Treat  Cement  Status  Describe Proposed or Cetail. Attach maps, well-bore con	Subsequent Report of Mechanical Integrity Test Subsequent Report of Stimulation or Treatment Subsequent Report of Perforation or Cementing Subsequent Report of Well Abandonment Subsequent Report of Pulled or Altered Casing Subsequent Report of Drilling Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)
Move in and rig up General Well Service Wireline Services. Swab test well. Rig 3466'. Rig down Competition Wireline Services. Swab test well. Rig 3466'. Rig down Competition Wireline Services. Approved AUG 1 7 2011  Date  Original Signal George Hudek, Ut	up Competition Wireline Services a Services and move off well.  E ONLY  ad By	The undersigned hereby certifies that the information contained on this application is true and correct:  08/03/2011  Date  Joseph P. Montalban, Chief Operating Officer  Print Name and Title
Name	Title	Telephone: (406) 873-2235

#### SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



BOARD USE ONLY	CONDITIONS OF APPROVAL
<b>BOARD USE ONLY</b>	CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

FORM NO. 2 R 10/09

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1306, 1309, and 1417

Submit In Quadruplicate To:

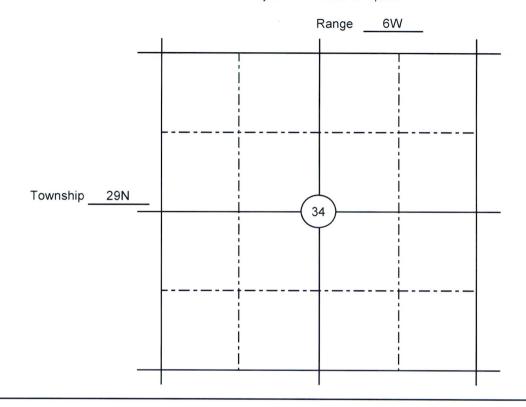
# MONTANA BOARD OF OIL AND GAS CONSERVATION

2535 ST. JOHNS AVENUE BILLINGS, MONTANA 59102  AUG 1 7 2011			
S	UNDRY NOTICES AN	ID REPO	ORT OF WELLS MONTANA BOARD OF ONL.
Operator MOUNTAIN VIEW ENE			Lease Name: JODY FIELD
Address PO BOX 200			Type (Private/State/Federal/Tribal/Allotted):
City CUT BANK State N	AT Zip Code 59427		PRIVATE Well Number:
Telephone 406-873-2235	Fax 406-873-2835		34-1
Location of well (1/4-1/4 section and SESESW-SECTION 34-T29N-R6W (330' FSL - 2310' FWL)	footage measurements):		Unit Agreement Name:  Field Name or Wildcat: LONEMAN COULEE  Township, Range, and Section:
API Number:	Well Type (oil, gas, injection	on, other):	SECTION 34-T29N-R6W
25 073 21830 State County Well	OIL		County: PONDERA
Indicate below with an X the nature	of this notice, report, or other	data:	
Notice of Intention to Change Plans Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforate or to Cement Notice of Intention to Abandon Well Notice of Intention to Pull or Alter Casing Notice of Intention to Change Well Status Supplemental Well History Other (specify)		Subseque Subseque Subseque Subseque Subseque Subseque Subseque	lent Report of Mechanical Integrity Test lent Report of Stimulation or Treatment lent Report of Perforation or Cementing lent Report of Well Abandonment lent Report of Pulled or Altered Casing lent Report of Drilling Waste Disposal lent Report of Production Waste Disposal lent Report of Change in Well Status lent Report of Gas Analysis (ARM 36.22.1222)
	detail. Attach maps, well-bore co	nfiguration dia	iagrams, analyses, or other information as
necessary. Indicate the intended starting Move in and rig up Liquid Gold Well Serv off well.		•	ng. Displace acid with 16 bbls of water. Rig down and move
			rsigned hereby certifies that the information contained on
Approved AUG 1 7 2011 Date Original Signed I	Ву	8/15/2	2011 Date Signed (Agent) Joseph P. Montalban, COO
George Hudak, UIC E		Telephone	Print Name and Title ne: (406) 873-2235
Name	Title	Telephone	le. (400) 073-2233

#### SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



BOARD USE ONLY	CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

Submit In Quadruplicate To:

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1306, 1309, and 1417

MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS, MONTANA 59102

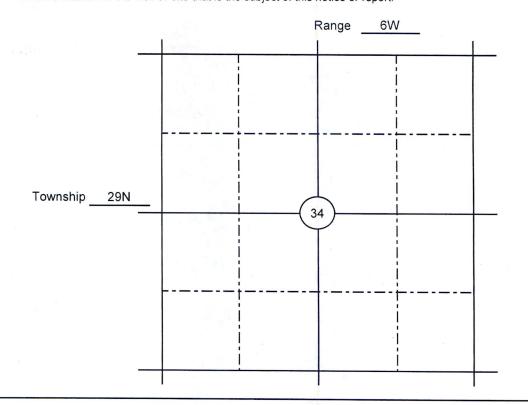
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S	UNDRY NOTICES AN	ID REPO	RT OF WELLS	& GAS CON	S. BIL
Operator MOUNTAIN VIEW ENE Address PO BOX 200  City CUT BANK State M Telephone 406-873-2235  Location of well (1/4-1/4 section and NENWSSY)-SECTION 34-T29N-R6W (2310' FSL - 990' FWL)  NWSW  API Number:  25   073   21838	MT Zip Code 59427 Fax 406-873-2835	on, other):	Lease Name: JODY FIELD  Type (Private/State/Feder: PRIVATE  Well Number: 34-2  Unit Agreement Name:  Field Name or Wildcat: LONEMAN COULEE  Township, Range, and Se SECTION 34-T29N-R6W  County:	al/Tribal/Allotted):	
<b>25</b> 073 21838 State County Well	INJECTION		PONDERA		
Notice of Intention to Change Plans Notice of Intention to Run Mechanic Notice of Intention to Stimulate or to Notice of Intention to Perforate or to Notice of Intention to Abandon Well Notice of Intention to Pull or Alter C Notice of Intention to Change Well S Supplemental Well History Other (specify)  Describe planned or completed work in necessary. Indicate the intended startir Well hooked up and commenced injection	cal Integrity Test c Chemically Treat c Cement d Sasing Status  Describe Proposed or detail. Attach maps, well-bore congular data for proposed operations of	Subseque Subseque Subseque Subseque Subseque Subseque CONVEF Completed onfiguration di or the complet	agrams, analyses, or other info	Treatment Cementing ment ed Casing Disposal aste Disposal ell Status (ARM 36.22.1222)  ormation as	
Approved SEP 0 6 2011 Date Original Signed By George Hudak, UIC Dis	<del></del>	this applic	Joseph P. Montalban, V.  Print Name and	Signed (Agent) P. of Operations d Title	
Name	Title	Telephor	ne:(406) 8	873-2235	

#### SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request. Plot the location of the well or site that is the subject of this notice or report.



#### **BOARD USE ONLY**

#### **CONDITIONS OF APPROVAL**

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

# Attachment C Well Construction Conversion Information



#### **CONTENTS**

1.	Part I. Well Schematic Diagram (40 CFR § 144.52)	2
2.	Part II. Well Construction or Conversion Procedures (40 CFR §	
	144.52)	3

#### **FIGURES**

Figure 01. Well Jody Field 34-1 Well Schematic Figure 02. Well Jody Field 34-2 Well Schematic

#### **EXHIBITS**

- A. Well Records for Jody Field 34-1 and Jody Field 34-2
- B. Well Records for Jody Field 14-34 and Jody Field 4-1A
- C. WatchDog® Monitoring System Specifications

#### 1. PART I. WELL SCHEMATIC DIAGRAM (40 CFR § 144.52)

Montalban Oil & Gas Operations, Inc (Montalban) intends to convert two (2) existing Class II UIC wells and two (2) shut-in oil and gas wells to Class V UIC wells for injection of industrial wastewater to be received from Montana Renewables, a renewable fuels refinery located in Great Falls, Montana. This application involves a phased approach with initial conversion of the 2 class II wells and subsequent conversion of the 2 oil and gas wells at a later date to accommodate future wastewater volumes from the refinery.

The Class II UIC wells to be converted at this time are identified as follows:

Well Jody Field 34-1 Section 34-Township 29 North, Range 6 West Pondera County, Montana API No. 25-073-21830

Jody Field No. 34-2 Section 34-Township 29 North, Range 6 West Pondera County, Montana API No. 25-073-21838

The current well schematics for Wells Jody Field 34-1 and 34-2 are provided in **Figures 01 and 02** respectively and include identification of confining layers and underground sources of drinking water (USDWs), casing and cementing details, and injection intervals. The injection wells are completed in the Madison Sun River Dolomite, and no additional well design changes are proposed.

The shut-in oil and gas wells to be converted at a future date are detailed below.

Well Jody Field 4-1A Section 4-Township 28 North, Range 6 West Pondera County, Montana API No. 25-073-21842 Well Depth: 3,442

Well Jody Field No. 14-34 Section 34-Township 29 North, Range 6 West Pondera County, Montana API No. 25-073-21740 Well Depth: 3,415'

Current well records for Wells Jody Field 4-1A and Jody Field No. 14-34 are included in Exhibit B.

# 2. PART II. WELL CONSTRUCTION OR CONVERSION PROCEDURES (40 CFR § 144.52)

Well construction details for the existing Class II UIC Wells Jody Field 34-1 and 34-2 are provided below and included in the well completion reports provided in Exhibit A:

Well Jody Field 34-1

Depth to Top of Injection Formation: 3,428' Injection Formation: Madison/Sun River Dolomite

Injection Interval: 110'

Jody Field No. 34-2

Depth to Top of Injection Formation: 3,438' Injection Formation: Madison/Sun River Dolomite

Injection Interval: 81'

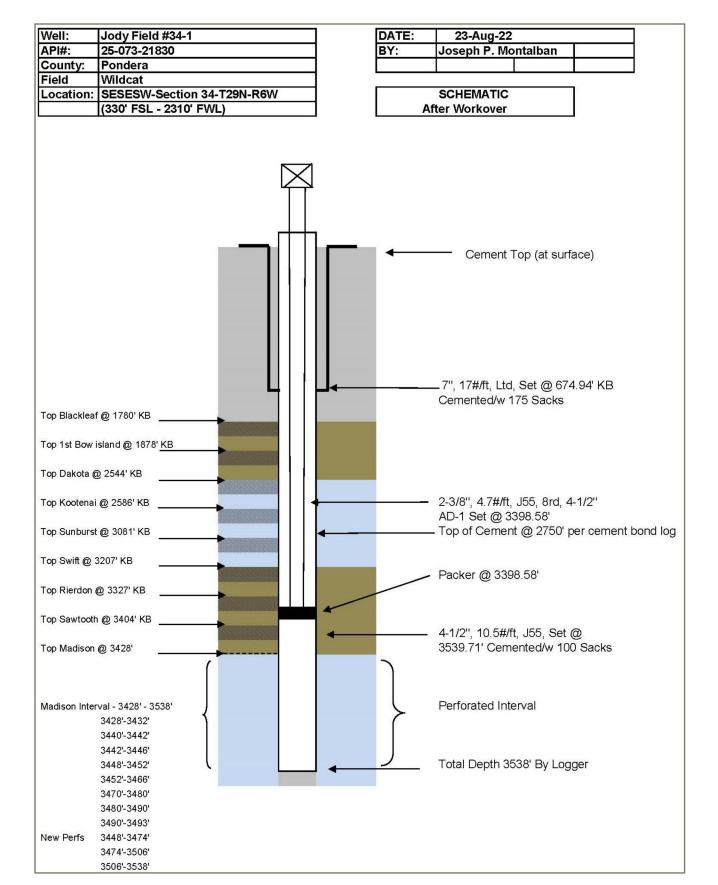
The Montana Board of Oil and Gas Conservation (BOGC) recently authorized workovers of the two Class II UIC wells, which included deepening the injection intervals and performing well stimulation (acidizing). Mechanical integrity tests conducted following workover operations indicated no loss of mechanical integrity. Well records including previously run logs and tests and a cement bond log for Well 34-1 is included in Exhibit A. The cement bond log indicates a good bond in Well 34-1 from a depth of 2,750 feet (beginning 500 feet above the confining Ellis Formation) to the top of the injection interval.

Prior to commencing operations, the wells will be equipped with the WatchDog® virtual well-site monitoring system, which will continuously track well parameters and immediately alert Montalban in the event of loss of pressure or well failure. Injection volumes and flow rates, pressure on the tubing, and pressure on the backside of the packer and tubing casing annulus will be monitored and real-time data will be remotely available 24/7. The pressure gauges are capable of monitoring pressures ranging from normal operating pressures up to the MAIP. Specifications for the WatchDog® system are included in Exhibit C. The tubing casing annulus will be filled with water treated with a corrosion inhibitor, and the valve will remain closed during normal operating conditions so that the pressure will be maintained at zero (0) psi.

A pressure actuated shut-off device (Murphy switch) will be located in the injection building and is set to shut-off flow from the injection pump when pressures reach within 200 to 300 psi of the Maximum Allowable Injection Pressure (MAIP) established for the wells. A "tap" will be placed at a conveniently accessible location on the discharge line of the pump that leads to the injection wells for collection of representative samples of the injected fluid. Further details regarding the injection site layout and location of monitoring devices is provided in Attachment D, Injection Operation and Monitoring Program.

#### **FIGURES**

Figure 01. Well Jody Field 34-1 Well Schematic Figure 02. Well Jody Field 34-2 Well Schematic





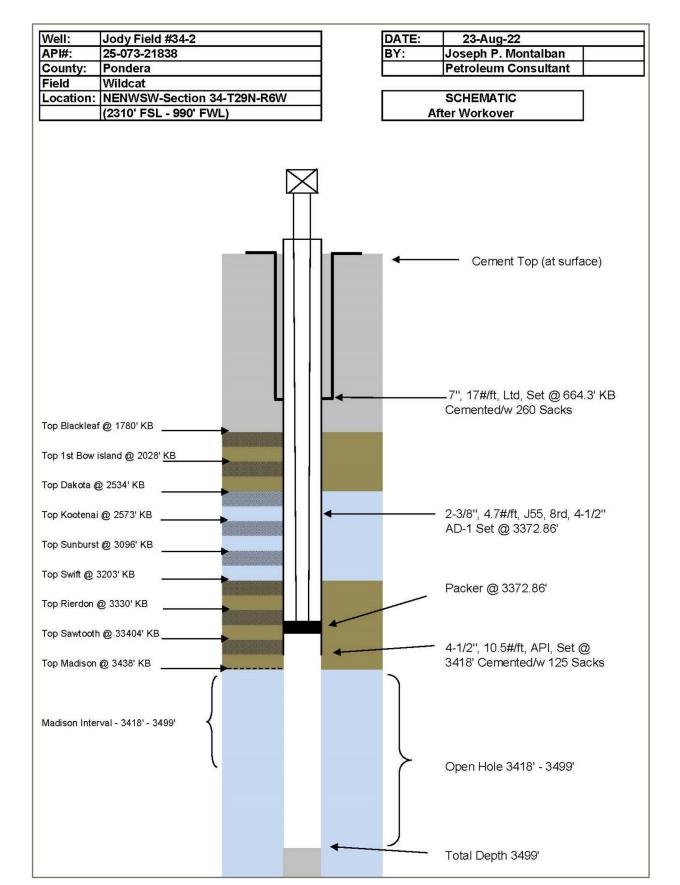
#### WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-1

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS



RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY







## WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-2

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS



RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY



#### **EXHIBIT A**

Well Records for Jody Field 34-1 and Jody Field 34-2

## **Engineering Completion Report**

Montalban Oil & Gas Operations Inc MOGO/Jody Field 34-1 NWNW – Section 34-T29N-R6W (2310' FSL – 990' FWL) Pondera County, Montana API #25-073-21838

> Altamont Oil & Gas Inc Patrick M. Montalban Petroleum Consultant PO Box 488 Cut Bank, MT 59427

#### Resume

Spud Date:		August 28, 2008	
<b>Completion Date:</b>		May 6, 2008	
Status:		Madison Sun River Dolomite Injection Well	
Elevation:		4071' GR 4076' KB	
Total Depth:		3540' Driller 3539' Logger 4 ½" set @ 3540' Float Collar 3495'	
Hole Size:		8 3/4" (0 - 679') 6 1/4" (679' - 3540')	
Casing Size:		7", 17#/ft, Ltd, ST&C, set @ 674.94' K w/175 sacks Class G Cement 4 ½", 105#/ft, SPI, J55, ST&C, Rge 3 so @ 3539.71 KB w/100 sacks Class G Cement. Float collar @ 3495.42 KB	
Perforations:	New Perforations	3428' - 3432' = 4 SPF = 3 1/8" HSC 3442' - 3446' = 4 SPF = 3 1/8" HSC 3440' - 3442' = 4 SPF = 3 1/8" HSC 3448' - 3452' = 4 SPF = 3 1/8" HSC 3452' - 3466' = 4 SPF = 3 1/8" HSC 3470' - 3480' = 4 SPF = 3 1/8" HSC 3480' - 3490' = 4 SPF = 3 1/8" HSC 3490' - 3493" = 4 SPF = 3 1/8" HSC 3448' - 3474' = 4 SPF = 3 1/8" Exp. 3474' - 3506' = 4 SPF = 3 1/8" Exp. 3506' - 3538' = 4 SPF = 3 1/8" Exp.	
Bridge Plug:		None	
Tubing:		105 joints 2 3/8", 4.7 #/ft, J55. 8rd, ST&C set @ 3398.58' with 4 ½' x 2 38" ADI	
Seating Nipple:		None	
Rods:		None	
Pump:		None	
Pumping Unit:		None	

#### **Daily Activity Summary**

Wednesday September 2, 2022

70°F – 95°F Clear Sky. 30 mph from the west.

Began operations @ 9:00 am.

Moved in and rigged up Liquid Gold Well Service Rig No. 6. Haul in and set circulating tank and power swivel. Rigged up 2:30 pm. Unseat 4 ½" x 2 3/8" AD-1 packer unseated @ 3:00 pm. Pack off tubing. Start and go through circulating pump. Shut down operations due to high winds 30-40 mph. Shut down operations @ 3:30 pm.

Total Rog Hours: 6 ½ hrs x \$260. Travel Time: (2 Trucks) (per material Tracking Costs:	\$1,690.00 \$180.00	
Pickup Costs: 2 trucks x \$60.00	=	\$120.00
Fuel Surcharge: 10%	=	\$169.00
<b>Environmental Safety</b>	=	\$50.00
Tool Pusher		\$350.00
Extra Labor: 1 man x \$45.00/hr	=	<b>\$292.50</b>
		\$2,851.50
Winch Truck: 3 hrs x \$165.00	=	\$495.00
2 hrs Tanker: 2 x \$165.00	=	\$330.00
1 Pickup: (\$60 per unit)	=	\$60.00
Fuel Surcharge: 10%	=	\$82.50
Pump Truck Mileage: 40 miles x	\$4.00	\$160.00
1 Travel per Man: 2 x \$45.00	=	<u>\$90.00</u>
<del>-</del>		\$1,217.50
1 day Consulting = $1500/2$	=	\$750.00
Mileage: 60 miles x 1.00	=	<u>\$60.00</u>
		\$810.00
<b>Total Daily Costs</b>	=	\$4,879.00

#### Thursday September 8, 2022

56°F – Cloudy Sky – 10-15 mph wind from North Began operations @ 8:00 am. Well flowed and equalized on the backside. Pulled and strapped 2 3/8", 4.7#/ft tubing out of the hole. Pulled 105 joints 2 3/8", 4.7#/ft with 4  $\frac{1}{2}$ " x 2 3/8" AD-1 Packer. Tubing tally as follows

 $1 - 4 \frac{1}{2}$ " x 2 3/8" AD-1 Packer = 2.50" 1 - 2 3/8" seating Nipple = 1.10"

105 joints 2 3/8", 4.7#/ft, J55, 8rd = 3391.98'

Total = 3395.58

KB = 3.0

Total String = 3398.58' KB

Stop and pick up 2 joints of 2 3/8" tubing. Tagged as follows and slowly circulated to T.D.

2 joints of 2 3/8" tubing = 3398.58' KB 62.90' 3461.48' KB

Stop and pick up 1 joint of 2 3/8" tubing

1 joint of 2 3/8" tubing = 31.45'
Total 108 joints

Total Tubing = 3492.93' KB

 $48^{\circ}F$  – Raining and very cloudy @ 2:00 pm.

Tagged @ 3461' KB and circulated to total depth 3493' KB and recovered thick black oily sulphur water with many solids. Circulated the last 15' to total depth 3493' KB. Well went on a vacuum and we lost 15 bbls in 1 hour from the circulating tank. Successful clean out of the well. Shut down operations @ 6:00 pm.

Total Rig Hours:  $10 \text{ hrs } \times \$260.00 =$ \$2,600.00 Travel Time: 4 men x 2 hrs x \$45.00 =\$360.00 **Trucking Costs** Pickup Costs: 2 trucks x \$60.00 \$1,200.00 **Circulating Tank: (Pump Tank)** = \$550.00 /day **Power Swivel: 1 x \$250.00** = \$250.00 **Fuel Surcharge: 10%** \$315.00 = **Environmental & Safety** = \$50.00 **Tool Pusher** \$350.00 Swivel Delivery: 40 miles x \$4.00 \$160.00 = 3 7/8" Bit = \$600.00

Bit Sub Extra Labor: \$45.00/hour x 10 hrs Circulating Rubber Pipe Dope	= = = =	\$50.00 \$450.00 \$300.00 \$25.00 \$6,180.00
Vacuum Truck: 2 ½ hrs x \$145.00 1 Pickup 1 hr Travel per Man Fuel Surcharge Total	= = = =	\$362.50 \$60.00 \$90.00 \$36.25 \$548.75
1 day Consulting: 1500/2 Mileage: 60 miles x \$1.00	= =	\$750.00 \$60.00 \$810.00
Total		\$7,538.75

Friday September 9, 2022

 $43^{\circ}F$  - Raining and cold - NW wind from NW Began operations @ 8:00 am. Ran 4 ½" x 2 3/8" AD-1 packer with 105 joints of 2 3/8", 4.7#/ft tubing. Tubing string as follows:

Moved in and rigged up Liquid Gold Pump and Transport Truck. Pressure up backside to 500#/s. Acidized well with 1000 gallons of 28% Hcl (23.8 bbls) Acid job as follows:

=

3398.58' KB

Pumped acid @ 1000#/s to load perforations Pumped 23.8 bbls Hcl acid @ 1000 bbls @ 1 bbl/minute Pumped displacement @

Pumping – 2.0 bbls/minute @ 1200#/s Pumping – 3.0 bbls/minute @ 1750#/s Pumping – 3.0 bbls/minute @ 1100#/s Over displaced by 30.0 bbls

Instant shut in Pressure = 1000#/s 5 minute shut in Pressure = 100#/s 7 minute shut in Pressure = 0#/s

**Total String KB** 

Well on a vacuum. Unseat  $4\frac{1}{2}$ " x 2 3/8" AD-1 Packer and pulled 105 joints of tubing. Pick up 3 7/8" bit and sub and ran tubing string as follows:

1 – 3 7/8" bit and bit sub 108 joints 2 3/8", 4.7#/ft	=	1.25
J55, 8rd, ST&C	=	3492.93'
<b>Total String</b>	=	3494.18'
Pick up 1 joint 2 3/8" tubing Total string = 109 joints	=	31.45
Total string – 107 joints		3525.63 Gr
Add KR	_	3 0'

Add KB =  $\frac{3.0'}{3528.63}$  KB

Tagged float collar @ 3492.93 KB. Picked up power swivel and began to drill float collar @ 3:00 pm. Drilled from 3 7/8" from 3:00 pm to 5:30 pm. Shut down operations @ 5:30 pm

Total Rig Hours: 9 hrs x \$260.00	=	\$2,470.00
Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00 per	man =	\$270.00
Fuel Surcharge: 10%	=	\$357.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor: \$350.00 per day	=	\$350.00
Pump Tank: \$550.00 per day	=	\$550.00
Power Swivel: \$550.00 per day	=	\$550.00
4 1/2" AD-1 Packer: Rental 1 day x	\$250 =	\$250.00
Crossover Sub	=	<u>\$50.00</u>
<b>Total Rig Costs</b>	=	\$5,017.00

#### Acid Job = 1000 gallons 28% Hcl

Acid Pump Truck	=	\$1,600.00
Pump Truck Mileage		
Bulk Acid Truck: \$750 per day	=	\$750.00
Mileage Bulk truck: \$4.00/mile x	40 miles	\$160.00
1000 gallons 28% Hcl	=	\$3,250.00
Additives	=	\$489.50
1 Pickup: \$60.00 per day	=	\$60.00
Fuel Surcharge: 10%	=	\$249.50
<b>Environmental &amp; Safety</b>	=	<u>\$75.00</u>
<b>Total Costs</b>	=	\$6,779.00
<b>Total Rig Costs</b>	=	\$11,796.00

Consulting: \$1500per day/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$60.00 \$810.00

Total \$12,606.00

Monday September 12, 2022

59°F – Very Smokey – North/North West wind 15 mph. Began operations @ 8:00 am. Rigged up power swivel and drilling equipment. Drilled from 9:00 am – 10:30 am. Drilled out 4 ½" float collar @ 10:30 am. Drilled 3 7/8" hole from 3495' to 3528.63'. Picked up 110th joint and drilled from 3528.63' to 3538.63' from 10:30 am to 12:00 pm. Drilled 3 7/8" hole from 3583.63' to 3543'. Tag guide shoe. Began to torque up 3 7/8" bit. Total depth @ 3543' KB by rig operators. Circulate and clean hole. Total pipe tally below:

1-37/8" bit and bit sub	=	1.25'
Ran 109 2 3/8", 4.7#/ft, J55, 8rd ST&C Rge 3	=	3524.38'
<b>Total String</b>	=	3525.63
Add KB = 3'	=	3.00° 3528.63°
Picked up 110 joints = 31.45' Drilled 14' of the 110 joints	=	14.0'
<b>Total String</b>		3542.63

Total depth 3543.0' KB by rig operator. Circulated hole clean for 1 hr. Hole clean. Tripped 110 joints out of the hole. Pick up 3 7/8" bit and casing scraper.

69° - Very smokey – North/Northwest wind @ 15 mph Trip 110 joints 2 3/8", 4.7#/ft tubing into hole and tag total depth 3543' KB by operator. Circulated hole and reciprocate a number of times from 3420' – 3543' KB. Circulated tubing and rotate tubing and well cleaned out to total depth with no fill. Lift tubing above 3420'. Shut down operations @ 5:00pm.

Total Rig hours: 9hrs x \$260.00	=	\$2,340.00
Daily Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45/hr/man	=	\$360.00
Fuel Charge: 10%	=	\$344.00
Environmental & Safety	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump & Tank	=	\$550.00
Power Swivel	=	\$550.00
4 ½" Scraper	=	\$150.00
3 7/8" Bit for Scraper	=	\$200.00
Extra Labor: (1 guy) \$45/hr	=	\$405.00
Bit Sub	=	\$50.00

Tuesday September 13, 2022

59°F – Very Smokey – Very little wind Began operations @ 11:00 am. Tripped to total depth 2543' KB and tagged no fill. Rolled hole and circulated well clean. Trip out of hole for perforating company. Rigged up Nine Energy Service @ 2:00 pm. Ran 3.75" gauge ring to total depth 3538' KB. Perforated 3506' – 3538' = 4 SPF, 3 1/8" expendable gun. 32' = 120 shots, successful shooting. Perforated 3474' – 3506' = 4 SPF, 3 1/8" expendable gun. 32' = 120 shots, successful shooting. Perforated 3448' – 3474' = 4 SPF, 3 1/8" expendable gun. 26' = 96 shots, successful shooting. Shot 90' of the Sun River Dolomite Formation. Rigged down Nine Energy Service. Tripped in \_\_\_\_\_\_ joints of 2 3/8" tubing with a 4 ½" x 2 3/8" SD-1 Packer with 3 joints of tail pipe. Tubing tally as follows:

1-2 3/8" seating nipple	=	1.10'
105 joints 2 3/8", 4.7#/ft, J55, 8rd		
ST&C Rge 3	=	3391.98'
Total		3395.58'
KB = 3'	=	<u>3.0'</u>
		3398.58'
3 joints of tubing = total 108 joints	=	<u>94.35'</u>
3 joints of tubing below packer		
Set @		3492.93'

2.50

Packer set @ 3398.58' KB

 $1 - 4\frac{1}{2}$ " x 2 3/8" AS-1 Packer

Set 4 ½" x 2 3/8" AS-1 Packer @ 3399' KB. Shut down operations @ 6:30 pm

Total Rig Hours: 7 ½ x \$260.00	=	\$1,950.00
Daily Pickup: 2 hrs x &60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/man	=	\$270.00
Fuel Surcharge: 10%	=	\$250.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump & Tank	=	\$550.00
Pipe Dope	=	<u>\$25.00</u>
<b>Total Costs</b>	=	\$3,515.00

3 hours water tanker: 3 x \$165.00 = \$495.00 2 hours pickup: 2 x \$45.00 = \$90.00 1 pickup: = \$60.00 Fuel Surcharge: 10% = \$49.50 Environmental: \$50.00/day = \$50.00 \$744.50

**Nine-CDK Perforating LLC** 

Perforated Madison Sun River Dolomite \$28,770.00

1 day Consulting: 1500/2 = \$750.00 Mileage: 60 miles x \$1.00/mile = \$60.00 \$810.00

**Total Daily Costs** = \$33,839.50

# **Perforating Summary**

MOGO/Jody Fields 34-1 SESESW Section 34-T28N-R6W Pondera County Montana

No. 1 Perforated Interval
Perforated Formation – Madison Sun River Dolomite
Perforated Interval – 3506' – 3538'
3 1/8" Expendable Gun = 33.2" Penetration .55 Diameter
4 SPF = 120 Shots
Collar Locator = 3503'7"
Shot @ 3:21 pm
Successful Shooting

No. 2 Perforated Interval
Perforated Formation – Madison Sun River Dolomite
Perforated Interval – 3474' – 3506'
3 1/8" Expendable Gun = 33.2 Penetration .55 Diameter on shot hole
4 SPF = 120 Shots
Collar Locator 3503'7"
Shot @ 3:57 pm
Successful Shooting

No. 3 Perforated Interval
Perforated Formation – Madison Sun River Dolomite
Perforated Interval – 3448' – 3474'
3 1/8" Expendable Gun = 33.2 Penetration .55 Diameter on shop hole
4 SPF = 96 shots
Collar Locator = 3445'7"
Shot @ 4:29 pm
Successful Shooting

55°F – Very Smokey – Wind from NW @ 9 mph Began operations @ 8:00 am. Moved in and rigged up Liquid Gold Well Service Pump Truck and Acid Transport. Pressured backside to 600#/s. Held OK. Began acid job @ 10:00 am. Acidized well with 1000 gallons of 28% Hcl Acid as follows:

Total Acid = 23.8 bbls Total displacement = 15.5 bbls. Load acid in tubing. Acid on perforation with 13.5 bbls pumping @ 400#/s. Acid job as follows:

Pumped 2.0 bbls/min @ 900#/s Pumped 2.0 bbls.min @ 1000#/s Pumped 23.8 bbls of acid and start displacement Pumped 2.0 bbls/min @ 900#/s pumped 13.5 bbls of displacement

Pumping 3.0 bbls/min @ 1400#/s displacement
Pumping 3.0 bbls/min @ 1500#/s 10 bbls over displacement
Pumping 3.0 bbls/min @ 1000#/s displacement
Pumping 3.0 bbls/min @ 1000#/s 5 bbls over displacement

# Pumped 35.0 bbls over displacement

ISI = 600#/s 1 minute shut in = 100#/s 2 minute shut in = vacuum

Job ended. Moved out Liquid Gold Equipment Unseat 4 ½" x 2 3/8" AD-1 Packer

1:00 pm – 59°F – Very Smokey Tripped out 105 joints of 2 3/8" tubing. Remove packer. Pickup rebuilt 4 ½" x 2 3/8" AD-1 packer. Ran tubing as follows:

1 – 4 ½" x 2 3/8" AD-=1 Packer = 2.50' 1 – 2 3/8" Seating Nipple = 1.10'

105 joints 2 3/8", 4.7#/ft, J55, 8rd ST&C tubing = 3391.58'

> Total String = 3395.58' KB = 3.0'

**Tubing set @ 3398.58' KB** 

Rolled to casing with 50 bbls of corrosion inhabitated water. Fluid clean. Landed 4 ½" x 2 3/8" AD-1 Packer with 13,000#/s over string weight. Held OK. Ran MIT test on well as follows:

<b>Time</b>	<b>Pressure</b>	Result
2:24 pm	450#/s	Held OK
2:29 pm	450#/s	Held OK
2:34 pm	450#/s	Held OK

Passed MIT test. Rigged down and moved Fields #34-2. Shut down operations @ 3:00pm

Total Rig Hours: 7 hrs x \$260.00	=	\$1,820.00
Daily Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 1 hr x \$45.00/man	=	\$135.00
Fuel Surcharge: 10%	=	\$237.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor	=	\$350.00
Pump & Tank	=	\$550.00
4 ½" Redress Packer	=	\$500.00
2" fill port part 3000#/s valve		
For acid job & pressure handline	=	\$540.00
4 ½" x 2 3/8" AD-1 for acid job	=	\$250.00
Pipe Dope	=	<u>\$25.00</u>
<b>Total Costs</b>	=	\$4,442.00

# Acid job 1000 gallons 28% Hcl

Acid Pump Truck	=	\$1,600.00
Bulk Acid Truck	=	\$750.00
<b>Bulk Mileage</b>	=	\$160.00
Bulk Acid 1000 gallons @		
3.25 x 1000	=	\$3,250.00
Additives	=	\$704.50
Environmental: \$75.00/day	=	\$75.00
1 Pickup	=	\$60.00
Fuel Surcharge: 10%	=	<b>\$301.00</b>
<b>Total Costs</b>	=	\$7,560.00
1 Day Consulting: 1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	<u>\$60.00</u>
_		\$810.00

Total Daily Costs =

\$12,812.00

**Total Workover = \$77,979.25** 

# **Engineering Completion Report**

Montalban Oil & Gas Operations Inc MOGO/Jody Field 34-2 NENWSW – Section 34-T29N-R6W (2310' FSL – 990' FWL) Pondera County, Montana API #25-073-21838

**Lone Man Coulee Field** 

Altamont Oil & Gas Inc Patrick M. Montalban Petroleum Consultant PO Box 488 Cut Bank, MT 59427

# Resume

Spud Date:	August 7, 2008
Completion Date:	August 18, 2008
Status:	Madison Sun River Dolomite Injection Well
Elevation:	4033' GR 4038' KB
Total Depth:	3415' Driller 3451' Logger
Hole Size:	8 <sup>3</sup> / <sub>4</sub> " (0 – 668') 6 <sup>1</sup> / <sub>4</sub> " (668' – 3415') 3 7/8" (3415' – 3451') New Open Hole
Casing Size:	7", 17#/ft, Ltd, ST&C, set @ 664.30' KB cemented w/260sacks Class G Cement 4 ½", 10.5#/ft, API, J55, ST&C, Rge 3 set @ 3418' KB w/125 sacks Class G Cement.
Perforations:	None
Bridge Plug:	None
Open Hole:	3418' – 3499' KB
Tubing:	107 joints 2 3/8", 4.7 #/ft, API, J55, Rge set @ 3366.36
Seating Nipple:	3365.16 KB
Rods:	None
Pump:	None
Pumping Unit:	None
Status:	Injection Well

# **Daily Activity Summary**

Wednesday	7	
September	14,	2022

70°F – Partly Cloudy – Smokey – NW wind @ 10 mph. Began operations @ 3:00 pm. Moved in and rigged up Liquid Gold Well Service Rig No. 6. Unseat 4 ½" x 2 3/8" AD-1 packer. Trip 107 joints of 2 3/8", 4.7#/ft, J55, API out of hole. Strapped out of the hole. 4 ½" x 2 3/8" AD-1 packer looked good. Shut down operations @ 7:00 pm

Total Rig Hours: 4hrs x \$260.00 = \$1,040.00 Pickup Travel: 1 hr x 1 hr x \$45.00/man \$135.00

Environmental = \$50.00 Fuel Surcharge: 10% = \$104.00

Total Costs = \$1,279.00

Thursday September 15, 2022

 $60^{\circ}F$  - Smokey - Partly Cloudy - Very little wind Began operations @ 8:00 am. Moved in circulating tank and power swivel. Haul H2O into location to fill tanks and clean well out to total depth: 3451'. Ran 109-2 3/8", 4.7#/ft, J55, 8rd with 3 7/8" bit to clean out well to total depth 3451'. Tubing as follows:

Out

Total String = 3420.90' KB = 3.00' 3423.90' KB

3423.90

In

Finish hauling equipment and H2O into circulating tanks. Need to clean out 27' out of open hole.

# Thursday September 15, 2022

 $64^{\circ}F$  – Smokey – Slight rain @ 3:00 pm. Tagged tubing @ 3424' KB. Cleaned out 3 7/8" hole from 3424' to 3451'. Hard drilling. Could be drilling on float collar from 4 ½" casing. Total depth by operator 3451' KB. Shut down operations @ 6:00 pm.

Total Rig Hours: 10 hrs x \$260.00	=	\$2,600.00
Daily Pickup: 2 trucks x \$60.00	=	\$170.00
Pickup Travel: 2 hrs x \$45.00/man	=	\$270.00
Fuel Surcharge: 10%	=	\$370.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump and Tank	=	\$550.00
Power Swivel	=	\$550.00
Bit Sub	=	\$50.00
3 7/8" Bit	=	\$200.00
Trailer Rental	=	\$100.00
Pipe Dope	=	<u>\$25.00</u>
<b>Total Costs</b>	=	\$5,235.00

# **Other Costs**

Winch Truck: \$165.00/hr 5 x \$165	.00	\$825.00
Tanker: 2 hrs x \$165.00/hr	=	\$330.00
Vacuum Truck: \$145.00/hr x 2 hrs	<b>s</b> =	\$290.00
<b>Environment Safety</b>	=	\$75.00
Fuel Surcharge	=	<b>\$144.00</b>
		\$1,664.50

Consulting: \$1500/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$\frac{\$60.00}{\$810.00}

Total Daily Costs = \$7,709.50

Friday September 16, 2022

55°F – Little Smokey – Little wind – Slight rain Began operations @ 8:00 am. Circulate & clean out well bore. Continue to torque up 3451'. Lose approximately 5 – 6 bbls of H2O overnight and while cleaning well bore. Drill on float collar on bottom & finish cleaning well bore. Trip out  $109 - 2 \ 3/8$ ", 4.7#/ft, J55, 8rd joints of tubing with 3 7/8" bit. Remove bit and change over and trip in hole with  $107 - 2 \ 3/8$ ", 4.7#/ft, J55, 8rd joints of tubing with 4 ½" x 2 3/8" AD-1 packer. Shut down operations @ 3:30 pm.

Total Rig Hours: $7 \frac{1}{2} hrs x $260.00 =$		\$1,950.00
Daily Pickup: 2 trucks = $2hrs \times $60$		\$120.00
Pickup Travel: 2hrs x \$45.00/man		\$270.00
Fuel Surcharge: 10%	=	\$305.00
<b>Environmental &amp; Safety</b>	=	\$50.00
<b>Supervisor &amp; Tool Pusher</b>	=	\$350.00
Pump and Tank	=	\$550.00
Power Swivel	=	\$550.00
<b>Change Over for Bit</b>	=	\$50.00
Wellhead Rubber	=	\$300.00
Trailer	=	\$100.00
Pipe Dope	=	<b>\$25.00</b>
<b>Total Daily Costs</b>	=	\$4,620.00
1 day consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	\$60.00
		\$810.00
<b>Total Costs</b>	=	\$5,430.00

Monday September 19, 2022

60°F – Partly Cloudy

Began operations @ 8:00 am. Well on a vacuum. Set  $4\frac{1}{2}$ " x 2 3/8" AD-1 packer with 15,000#/s over string weight. Tubing string as follows:

3.00

**KB** 

Pressure tested and pressure up backside to 500#/s. Held OK. Acidized well with 100 gallons 28 Hcl. Acid job as follows:

Acid Job = 1000 gallons 28% Hcl

Pumped 1.0 bbls acid @ 1.5 bbl/min @ 500#/s Pumped 2.3 bbls acid @ 1.5 bbl/min @ 750#/s Pumped 10 bbls acid @ 1.5 bbl/min @ 1000#/s Pumped 10 bbls acid @ 1.5 bbl/min @ 1000#/s Total 23.8 bbls acid

Pumped 5.0 bbls of water after acid job. Shut down for 5 minutes and pressure dropped form 1000#/s to 500#/s.

Over-Displaced Acid job with 35 bbls as follows:

Pumping @ 3.0 bbls/min @ 1250#/s 10 bbls displaced

Pumping @ 3.0 bbls/min @ 1500#/s 10 bbls displaced

Pumping @ 3.0 bbls/min @ 1750#/s 10 bbls displaced

Pumping @ 3.0 bbls/min @ 1850#/s 5 bbls displaced

Total 35.0 bbls displaced

Instant Shut in = 1500#/s 5 min shut in = 1100#/s 10 min shut in = 900#/s 15 min shut in = 800#/s

Well flowed back 11.0 bbls after acid job. Tripped in with 3 7/8" bit and sub and tagged on the 100<sup>th</sup> joint. Tubing string as follows:

1-37/8" Bit = 2.50' 1-37/8" x 23/8" changeover sub = 1.10' 110 joints of 23/8" x 4.7#/ft, J55 8rd, ST&C Tubing = 3460.70' 3' KB = 3.00' Total String = 3467.30' KB

Drilled down on the  $110^{th}$  joint. Drilled fairly easy with a few tight spots. Shut down operations @ 6:00 pm

Total Rig Hours: 10hrs x \$260.00	=	\$2,600.00
2 Trucks: 2 x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/mar	ı =	\$270.00
Fuel Surcharge: 10%	=	\$370.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor & Tool Pusher	=	\$350.00
New 3 7/8" Bit	=	\$1,400.00
Pump and Circulating Tank	=	\$550.00
Power Swivel	=	\$550.00
Trailer	=	\$100.00
Tubing Wiper Rubber	=	\$25.00
Bit Changeover 3 7/8" x 2 3/8"	=	\$50.00
Pipe Dope	=	\$25.00
1 – 4 ½" AD-1 Packer (Acid Job)	=	<u>\$250.00</u>
		\$6,710.00
1000 gallon 28% Hcl Acid Job		
1 – Acid Pump Truck	=	\$1,600.00
1 – Bulk Acid Truck	=	\$750.00
Bulk Mileage: 4.00/mile	=	\$160.00
1000 gallons 28% Acid \$3.25/gallo	n	\$3,250.00
Additives	=	\$549.50
Fuel Surcharge: 10%	=	\$301.00
Environmental	=	\$75.00
2 Travel \$45.00/man	=	<b>\$90.00</b>
		\$7,164.50
1 1 6 14 01700/2		<b>6550.00</b>
1 day Consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	\$60.00
		\$810.00
<b>Total Daily</b>	=	\$14,684.50
i otai Dany		ψ1 <b>7,007.</b> 30

Tuesday September 20, 2022

49°F – Partly Cloudy – Wind from N to NW. Began operations @ 8:00 am. Picked up 111 joint and drilling. Tubing string as follows:

1 – 3 7/8" Bit	=	2.50'
1 - 37/8" x 2 3/8" change over	=	1.10'
111 joints 2 3/8" x 4.7#/ft		
J55, 8rd, ST&C Rge 3	=	3492.28'
Total String	=	3495.88'
3.0 KB	=	3.00°
		3498.88' KB

Drilled to total depth 3498.88 KB. Drilling fairly well. Drilling slows down after a break. Have not lost volume. Drilled to total depth 3499' KB Shut down operations @ 5:30 pm

TE / LD: II 01/1 02/00/		00 410 00
Total Rig Hours: 9 ½ hrs x \$260.00	)=	\$2,410.00
Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/hr/m	ıan	\$270.00
Fuel Surcharge: 10%	=	\$357.00
Environmental & Safety	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump and Tank	=	\$350.00
Power Swivel	=	\$550.00
Trailer	=	\$100.00
<b>BA Sub and Cross Over</b>	=	\$50.00
Pipe Dope	=	<b>\$25.00</b>
-		\$4,892.00
Consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	\$60.00
9		\$810.00

**Total Costs** 

Wednesday September 21, 2022

# 32°F - Sunny - No Wind

Began operations @ 8:00 am. Circulated and clean open hole to 3499' KB by operator. Circulated hole 30 minutes to clean to total depth. Tripped 3 7/8" bit and tubing out of hole. Tripped in 4  $\frac{1}{2}$ " x 2 3/8" AD-1 packer for acid job. Tubing string as follows:

\$5,702.00

Circulated corrosion inhibitor on the backside. Set  $4\frac{1}{2}$ " x 2 3/8" AD-1 packer set @ 3372.96 KB with 15,000 #/s over string weight. Pressure up backside to 500#/s. Held OK. Need to repair pump truck. Shut down operations @ 5:00 pm.

Total Rig Hours: 9 hrs x \$260.00 = \$2,340.00 Daily Pickup: 2 trucks x \$60/truck = \$120.00

Pickup Travel: 2 hrs x \$45.00/mar	<b>1</b> =	\$270.00
Fuel Surcharge: 10%	=	\$289.00
Environmental & Safety	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump and Tank	=	\$550.00
Power Swivel	=	\$200.00
Redress 4 1/2" AD Packer	=	\$500.00
Bit Crossover Sub	=	\$50.00
Dope	=	\$25.00
Trailer	=	<u>\$100.00</u>
<b>Total Daily Costs</b>	=	\$4,844.00
•		
Other Costs		
1 Pump Truck	=	\$750.00
Vacuum Truck: 2 hrs x \$145/hr	=	\$290.00
Environmental: \$75.00/day	=	\$75.00
Fuel Surcharge: 10%	=	\$104.00
<b>Total Costs</b>	=	\$1,219.00
		,
1 day Consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	<u>\$60.00</u>
Total Costs	=	\$810.00
<b>Total Daily Costs</b>	=	\$6,873.00
•		,

Thursday September 22, 2022

46°F – Cloudy – Slight Rain – Wind from SW Began operations @ 10:00 am. Moved in and rigged up Liquid Gold Well Service Acid Bulk Truck and Pump Truck. Acidized well with 1000 gallons 28% Hcl. Acid job as follows:

1000 gallons 28% Hcl Acid
23.8 bbls of Acid
13.55 bbls of tubing volume

Began job @ 10:52 am:

Pumped 28.0 bbls of acid from 300#/s to 800#/s @ 1.5 bbls/minute Finished pumping acid @ 800#/s @ 1.5 bbls/minute Shut down and pressure dropped to 500#/s

Displaced 48.0 bbls as follows

Pumped 13.5 bbls 110#/s @ 1.6 bbls/minute Over-displaced by 35bbls as follows

Pumped 5.0 bbls @ 1600#/s @ 3 bbls/minute Pumped 10.0 bbls @ 1650#/s @ 3 bbls/minute Pumped 10.00 bbls @ 1700#/s @ 3 bbls/minute Pumped 10.0 bbls @ 1700#/s @ 3 bbls/minute

# Pumped 48.5 bbls displacement

Instant shut in	=	1100#/s
5 min shut in	=	650#/s
10 min shut in	=	350#/s
15 min shut in	=	200#/s

Well in a vacuum. Rigged down Liquid Gold Well Service. Ran MIT test for state @ 3:00 pm. Pressured up backside to 345#/s. Slow leak. Moved packer and pulled 15,000#/s over packer. Pressure tested to 350#/s. Failed test. Pulled tubing and packer to repair leak. Shut down operations @ 5:30 pm

Total Rig Hours: 7 ½ hrs x \$260.0	0=	\$1,950.00
Daily Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/mai	n =	\$270.00
Fuel Surcharge: 10%	=	\$250.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Pump & Tank	=	\$500.00
Tailer	=	<u>\$100.00</u>
<b>Total Costs</b>	=	\$3,640.00

# **Acid Job**

1 Pump Truck	=	\$1,600.00
Bulk Acid Truck	=	\$750.00
<b>Bulk Mileage: 4.05/miles</b>	=	\$160.00
1000 Bulk Acid: 3.25/gallon	=	\$3250.00
Additions	=	\$684.50
Fuel Surcharge: 10%	=	\$280.50
2 Vacuum Trucks: \$145.00/load	=	\$290.00
<b>Environmental &amp; Safety</b>	=	<u>\$75.00</u>
<b>Total Costs</b>	=	\$7,254.50

# **MI Test**

Tanker Truck: 2 ½ hrs x \$165.00	=	\$412.50
Vacuum Truck: 2 ½ hrs x \$145.00	=	\$290.00
Pickup: 1 truck x \$60.00	=	\$60.00
Travel: 1 hr x \$45.00/man	=	\$90.00
Fuel Surcharge: 10%	=	<u>\$70.00</u>
<b>Total Costs</b>	=	\$922.50

1 day Consulting: \$1500/2	=	\$750.00
Mileage: 60 miles x \$1.00	=	<u>\$60.00</u>
<b>Total Costs</b>	=	\$810.00

Friday September 23, 2022

55°F – Clear – Slight wind from the East Began operations @ 8:00 am. Tripped 2 3/8", 4.7#/ft, J55, 8rd, with 4 ½" scraper to 3373' KB. Added 10' tubing sub and cleaned to 3383 KB. Dropped standing valve and pressured tubing to 500#/s. Slow leak. Pressure testing tubing to 1000#/s. Could not find hole. Ran 45 joints, ran 24 joints and ran 12 joints would hold 1000#/s and slowly leak off. Ran 2 more joints would not hold. Ran 83 joints into hole. Shut down operation for night. Did not find tubing leak. Shut down operations @ 4:00 pm.

Total Rig Hours: 8 hrs x \$260.00	=	\$2080.00
Daily Pickup: 2 hrs @ \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/man	=	\$270.00
Fuel Surcharge: 10%	=	\$208.00
<b>Environmental and Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Redress 4 ½" AD-1	=	\$500.00
4 ½" Scraper	=	\$150.00
3 7/8" Bit on Scraper	=	\$200.00
Trailer	=	\$100.00
Pipe Dope	=	<u>\$25.00</u>
<b>Total Costs</b>	=	\$4,053.00

1 day Consulting: \$1500/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$\frac{\$60.00}{\$810.00}

ψ010.00

**Total Costs** \$4,863.00

Tuesday September 27, 2022

82°F – Clear – Wind from South 8 -10 mph Tripping in hole and pressuring tubing to find leak. Pressured to 2000#/s and Held OK. Added 2 joints and pressured to 2000#/s. Slow leak. Found leak on the 100<sup>th</sup> joint. Very small leak. Could not find without pressure on tubing. Tripped 2 3/8" x 4.7#/ft, J55 with 4'6" packer. Fished standing valve with sand line. Tubing string as follows. Replace 110 joint was 31.70' with a new joint of 31.60'.

1 – 4 ½" AD-1 Packer = 2.50' 1 – 2 3/8" Seating Nipple = 1.10'

107 joints 2 3/8", 4.7#/ft, J55

8rd tubing = 3366.26'

Total String = 3369.86 Gr

 $3.0' \text{ KB} = \frac{3.0'}{3372.86 \text{ KB}}$ 

Filled the backside with produced H2O. Ran MIT on well as follows

MIT Test Began @ 4:32 pm

<u>Time</u>	<b>Pressure</b>	Time Sch	
4:32 pm	360#/s	0	
4:37 pm	360#/s	4:37	5 minutes
4:42 pm	360#/s	4:42	10 minutes
4:47 pm	360#/s	4:47	15 minutes

### **MIT Passed**

83°F – Sunny – 5 -10 mph from SW Passed MIT test. Shut down operations @ 5:00 pm

Total Rig Hours: 9hrs x \$260.00	=	\$2,340.00
Daily Pickup: 2 trucks x \$60.00	=	\$120.00
Pickup Travel: 2 hrs x \$45.00/man	=	\$270.00
Fuel Surcharge: 10%	=	\$249.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Water Truck: 2 hrs x \$75.00	=	\$150.00
Pipe Dope	=	\$25.00
D 1 41/9 4D 4 / 11		

Redress 4 ½" AD-1 (new rubber, shewing and labor) = <u>\$200.00</u> Total Costs = \$3,704.50

Consulting: \$1500/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$60.00 \$810.00

Total Cost = \$4,514.50

Wednesday September 28, 2022

Tuesday

**September 27, 2022** 

 $56^{\circ}F$  – Sunny – Slight wind @ 5-10 mph from S Began operations @ 8:00 am. Circulating hole with fresh water and corrosion inhibitor. Set  $4\frac{1}{2}$ " x  $2\frac{3}{8}$ " AD-1 with 12,000#/s over string weight. Test MIT and lost a few pounds. Pulled 22,000#/s over string weight. Ran MIT test for State Inspector Gary Klotz

<b>Time</b>	<b>Pressure</b>	<b>Elapsed Time</b>
9:56 am	378#/s	0
10:01 am	375#/s	5 min
10:06 am	375#/s	10 min

10:11 am 375#/s 15 min

Passed MIT @ 10:11 am. Passed by State of MT Inspector Gary Klotz. Rigged down Liquid Gold Well Service. Moved rig to yard. Shut down operations @ 11:00 am

Total Rig Hours: 3 hrs x \$260.00	=	\$780.00
Daily Pickup: 2 hrs x \$60.00	=	\$120.00
Rig Travel: 3 ½ hrs x \$45.00/man	=	\$785.00
Fuel Surcharge: 10%	=	\$158.00
<b>Environmental &amp; Safety</b>	=	\$50.00
Supervisor/Tool Pusher	=	\$350.00
Water Truck: 2 hrs x \$75.00	=	<u>\$150.00</u>
<b>Total Costs</b>	=	\$393.00

Consulting: \$1500/2 = \$750.00 Mileage: 60 miles x \$1.00 = \$\frac{\$60.00}{\$810.00}

Total Costs = \$3,203.00

Total Workover Costs = \$66,885.00

# **CHECK SHEET**

Date:	4/21/2008			API	Number:	073-218	30
Company:	AltaMent Oil & Gas	Inc. Mount	ain View	Energy Inc.			
Well Name:	Jody Field 34-1						
County:	Pondera						
Field:	Wildcat Pondera /	oneman Coul	ec				
Surf. Location:	330FSL 2310F	WL SE	SW Lo	ot: Sec:	34 Twp:	29 N Rng:	6W
Permit I	Number: 26562			Drilling Fe	e:		
Intentio	n to Drill: 4/21/2008	8		Expiration Da	te: 10/21/	2008	
Mineral	Ownership:	✓ Private	☐ State	☐ Federal	☐ Indian		
Well Ty	/pe: Vertical			☐ Multiple L	aterals		
Propose	ed Depth/Formation:	MD: 3450	TVD:		Sun Riv	ver Dolomite	
Drilling	Unit Acres	Descript	ion:				
Sample	s Required: 🗆			Received	:		
		COMPLET	TION INFOR	MATION			
Comple	tion Date: MAY (	2008	TD:	3543	PBTD:	NA	
Comple	AIII	. (	IP / Forma	0			
				MAG	Hison		
Geologi	cal Well Report:		Mud L	og:			
Sundry	Notices: Chg. of Op						
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Subsec	uent Report of Aband	onment: Re	ceived		Approved:		
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						Lawrence Committee	

# **CHANGE OF OPERATOR RECORD**

JODY FIELD 34-1 29N, 6W, Sec. 34: SESW API #073-21830

TO: Mountain View Energy, Inc. FROM: Altamont Oil & Gas, Inc. DATE: August 17, 2010

Form No. 4 R 4-85

LOCATE WELL CORRECTLY 34

FEB - 5 2009

BOARD OF OIL AND GAS CONSERVATION MONTANA BOARD OF O'ARM 36.22.1013
OF THE STATE OF MONTANA
BILLINGS OR SHELBY

# COMPLETION REPORT

									#21. 1
	ALTAMONT C								ll No#34-1`
Address_P	O BOX 488	- CUT BAI	NK MT	59427	F	ield (or A	rea)WID	LCAT	10 at 2
The well is	located_330	ft. from	n (S) line	and 231	0 ft.	from (W)	line of Sec.	34	
Sec34	; T. 29N	_; R6W_	; Cou	ntyPO	NDERA	-		; Elevation_	4071 GL (D.F., R.B. or G.L.)
Commence	d drilling_A	APRIL 30,	2008	, X	9; Co	ompleted	MAY 6,	2008	, 19
Write the A	PI# or the w	ell name o	of anothe	r well on	this lea	se if one	exists	1	
The info	ormation give on of the well	n herewith I at the ab	n is a com ove date.	plete and	correct	record of	the well. Th	esummaryo	n this page is for
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JAN -7 2009

MONTANA BOARD OF OIL & GAS CONS. BILLINGS

# Electric Log Formation Tops

Cretaceous	<u>Depth</u>	<u>Datum</u>
Calarada		
Colorado Two Medicine		
Blackleaf	1780	+2296
Blackleaf Bentonite Marker	1820	+2256
Blackleaf Sandstone	1826	+2250
Base Fish Scales		
1 <sup>st</sup> Bow Island	1878	+2198
2 <sup>nd</sup> Bow Island	2030	+2046
3 <sup>rd</sup> Bow Island	2132	+1944
4 <sup>th</sup> Bow Island "A"	2376	+1700
4 <sup>th</sup> Bow Island "B"	2423	+1653
Dakota	2544	+1532
Kootenai	2586	+1490
Sunburst	3081	+995
<u>Jurassic</u>		
Morrison	3152	+924
Swift	3186	+890
Swift Shale	3274	+802
Rierdon(Ellis Shale)	3327	+749
Sawtooth	3404	+672
Sawtoodi		
Mississippian		
<u>1</u> 111331331 <u>p</u> 51411		
Madison(Sun River Dolomite)	3428	+648
,		
Total Depth:	3543	+533
Total Deptil.	5515	

FORM NO. 22 R7/99	SUBMIT IN C	QUADRUPLICATE TO:		M 36.22.		Lease Nam		1 .	
MONTANA BOARD OF OIL AND GAS CONSERVATION						Lease Type			derai):EIVED
2535 ST. JOHNS AVENUE, BILLINGS, MONTANA 5910: Application for Permit						Well Numb	er:		
Т	[vert		D	1		34-1			APR 1 4 2008
1	Tx dr	Deepen	Re-enter	7 _	<u> </u>	Unit Agree	ment Nam		
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	MONT OIL & G	AS, INC				WILDCAT			DIELING
	30X 488				ĺ	Objective F		,	
City CUT BANK			IP 59427			Section, To			& MADISON
Telephone Numl	ber (406) 873	9000				SECTION			
,		arter section and fo	otage measure	ements	s)	County:		,	
	34-T29N-R6W	1							
(330' FSL x	2310' FWL)								
						PONDERA			
(if directionally drilled, show	both surface and bottom ho	ole locations above)							
Proposed total d	epth F	ormation at total	depth	Eleva	ation	(indicate G	L or KB)		
3,450'	M	MADISON/SUN R	TVED		7. (	071' GL			
		acing unit API		other v			(if any)	Anticin	pated spud date
Cizo di la docum	and or an image oper	aomy ame	idilibor or and	011101 1	WOII C	on and load	o (ii aiiy)	Antioip	acca spaa date
40 ACRES (S	ESW)								
Hole size	Casing size	Weight/foot	Grade (API)	1	Depth		Sacks of C	ement	Type of Cement
	7"				Верин				
8-3/4" 6-1/4"	,	17#/ft	J55				245 sx		Class G
0-1/4	4-1/2"	9.5#/ft	J55		3	,450' 100 sx			Class G
						A			
Describe Proposed Operations:  Describe or attach labeled diagram of blowout preventer equipment. Indicate if air drilled or describe mud program.  Altamont Oil & Gas, Inc proposes to drill this well to test for oil and or gas in the Bow Island, Sunburst & Madison formations. No DST's or cores are planned. Surface casin will be cemented from surface to approximately 650' ensuring good returns to surface. The well will be drilled with air and drilling mud from casing point to TD. Open hole logs will be run from surface to TD. Production zones will be perforated & tested. Blowout equipment will be as indicated on the attached exhibit and will be tested at regular intervals.									
BOARD USE OF	NLY						1/	1	7
Approved(date)	Approved (date)  APR 2 1 2008 ermit Fee								
TitleTITLE	DINGFECTOR	Permit Expires ————————————————————————————————————	562		Pre	esident 8	& CEO		
THIS PERMIT IS SUB. CONDITIONS OF APP STATED ON THE BAC	JECT TO THE ROVAL	mber 25- 073		Title _		9/2008	. 0.10		
		/							
Samples Required:	NONE		FROM_						
Core chips to addr	ess below, full cores	to USGS, Core Labor Montana Bos	atory, Arvada, Co ard of Oil and Ga				pe washed,	aried and	delivered prepaid to:
	2525 St. Johns Avenue Billings, MT 59102								

SUPPLEMENTAL	INFORMATION

Note: Additional information or attachments may be required by Rule or by special request.

- X1. Attach a survey plat certified by a registered surveyor. The survey plat must show the location of the well with reference to the nearest lines of an established public survey.
- X 2. Attach an 8½ x 11" photocopy of that portion of a topographic map showing the well location, the access route from county or other established roads, residences, and water wells within a½ mile radius of the well.
- X3. Attach a sketch of the well site showing the dimensions and orientation of the site, the size and location of pits, topsoil stockpile, and the estimated cut /fill at the corners and centerstake. (Note: the diagram need not be done by an engineer or surveyor.) Attach a sketch of a top view and two side views of the reserve pit(s), if utilized. The reserve pit sketch must show the length, width, depth, cut and fill, amount of freeboard, area of topsoil stockpile, and the height and width of berms.
  - 4. Describe the type and amount of material or liner, if any, to be used to seal the reserve pit. If a synthetic liner is used, indicate the liner thickness (mils), bursting strength, tensile strength, tear strength, puncture resistance, hydrostatic resistance, or attach the manufacturer's specifications. N/A
  - 5. Describe the proposed plan for the treatment and/or disposal of reserve pit fluids and solids after the well is drilled. If the operator intends to dispose of or treat the reserve pit contents off-site, specify the location and the method of waste treatment and disposal. (Note: The operator must comply with all applicable federal, state, county, and local laws and regulations with regard to the handling, transportation, treatment, and disposal of solid wastes.) N/A
- 6. Does construction of the access road or location, or some other aspect of the drilling operation require additional federal, state, or local permits or authorizations? If yes, indicate the type of permit or authorization required:

X	No additional permits needed
	Stream crossing permit (apply through county conservation district)
	Air quality permit (apply through Montana Department of Environmental Quality)
	Water discharge permit (apply through Montana Department of Environmental Quality)
	Water use permit (apply through Montana Department of Natural Resources and Conservation)
	Solid waste disposal permit (apply through Montana Department of Environmental Quality)
	State lands drilling authorization (apply through Montana Department of Natural Resources and Conservation)
	Federal drilling permit (specify agency)
	Other federal, state, county, or local permit or authorization: (specify type)
OTICE	ES:

#### NO

- 1. Date and time of spudding must be reported to the Board verbally or in writing within 72 hours after the commencement of drilling operations.
- 2. The operator must give notice of drilling operations to the surface owner as required by Section 82-10-503, MCA, before the commencement of any surface activity.

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CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

WARNING: Failure to comply with conditions of approval may void this permit.

# WELL LOCATION

APR 1 4 2008

FIELD #34-1
SE1/4SW1/4 SECTION 34, T29N, R6W, P.M.M.
PONDERA COUNTY, MONTANA 330' FSL X 2310' FWL

MONTANA BOARD OF OIL & GAS OONS. BILLINGS

ELEVATION BEFORE GRADING: 4071'

	_ 4			
CALE 1'=1000'	NW1/4SW1/4	3 NE1/4SV1/4	<b>4</b> —	NE1/4SE1/4
У Л	SW1/4NW1/4	SE1/4NW1/4	SW1/4NE1/4	SE1/4NE1/4
	NW1/4NW1/4	NE1/4NW1/4	NW1/4NE1/4	NE1/4NE1/4

ELEVATION BEFORE GRADING: 4071' BASIS - NAVD 29

GEOGRAPHIC COORDINATES: 48°13'21.9' N 112°22'16.1' W (NAD 83 BASIS)

BASE POSITION FOR GEOGRAPHIC COORDINATES: 48\*12'38.97587' N 112\*22'44.76679' W (NAD 83 BASIS) (NGS CONTROL POINT CONE, THIRD ORDER)

LAND USE: CULTIVATION (CRP)

NO ATTEMPT HAS BEEN MADE BY THE SURVEYOR TO LOCATE UNDERGROUND STRUCTURES OR BURIED UTILITIES, AND APPROPRIATE AGENCIES AND SURFACE LANDOWNERS MUST BE CONTACTED FOR FIELD LOCATION OF ANY UNDERGROUND STRUCTURES OR BURIED UTILITIES

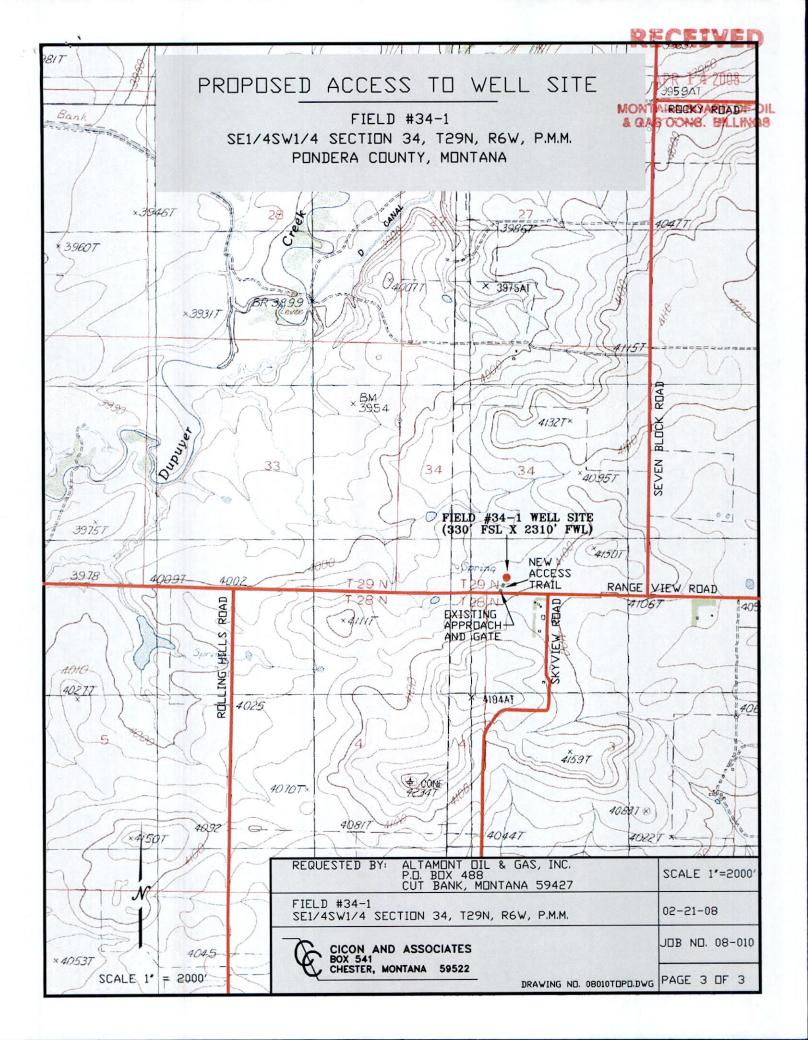
BEFORE ANY CONSTRUCTION COMMENCES. CALL 1-800-424-5555 BEFORE ANY CONSTRUCTION COMMENCES.

NOTE: SUBDIVISION LINES AND GOVERNMENT LOT BOUNDARIES ARE SHOWN FOR DEPICTIVE PURPOSES ONLY AND SHOULD NOT BE USED FOR SCALING OR LOCATION PURPOSES.

ON THE BASIS OF MY KNOWLEDGE, INFORMATION AND BELIEF, I CERTIFY THAT AS A RESULT OF A SURVEY MADE ON THE GROUND TO THE NORMAL STANDARD OF CARE OF PROFESSIONAL LAND SURVEYORS PRACTICING IN THE STATE OF MONTANA, I FIND THE LOCATION OF THE FIELD #34-1 AS SHOWN ON THE SUBJOINED DRAWING.

> 04039 LS JOHN M. CICON

REQUESTED BY: ALTAMONT DIL & GAS, INC. P.D. BOX 488 CUT BANK, MONTANA 59427	SCALE 1'=1000'
FIELD #34-1 SE1/4SW1/4 SECTION 34, T29N, R6W, P.M.M.	02-21-08
CICON AND ASSOCIATES	JDB ND. 08-010
CHESTER, MONTANA 59522  DRAVING NO. 08010ALTASIG.DW	SHEET 1 DF 3



# RIG PAD SITE

RECEIVED

FIELD #34-1 SE1/4SW1/4 SECTION 34, T29N, R6W, P.M.M. PONDERA COUNTY, MONTANA

APR 1 4 2008

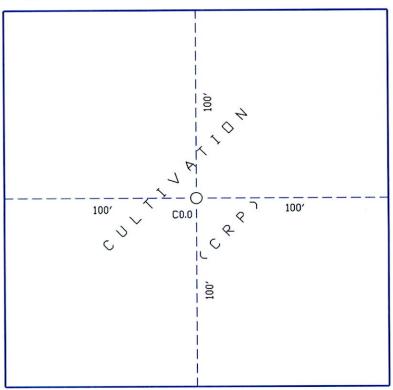
MONTAHA BOARD OF OIL & GAS OONS. BILLINGS

F 3.3'

C 3.7'

F 2.0'

C 4.7'



GENERAL CUTS AND FILLS OF PROPOSED RIG PAD

LAND USE: CULTIVATION (CRP)

ELEVATION OF LOCATION BEFORE GRADING: 4071' BASIS OF ELEVATIONS: NAVD 29

NOTE:

CUTS AND FILLS NOTED ARE FOR PURPOSES OF DESCRIBING THE GENERAL TOPOGRAPHY OF THE PROPOSED RIG PAD AND ARE NOT INTENDED FOR CALCULATION OF DIRTWORK QUANTITIES OR OTHER CALCULATIONS.

SCALE 1' = 50'

REQUESTED BY: ALTAMONT DIL & GAS, INC. P.D. BOX 488 CUT BANK, MONTANA 59427	SCALE 1'=50'
FIELD #34-1 SE1/4SW1/4 SECTION 34, T29N, R6W, P.M.M.	02-21-08
CICON AND ASSOCIATES	JOB NO. 08-010
CHESTER, MONTANA 59522	SHEET 2 DF 3

# RECEIVED

APR 1 4 2008

MONTANA BOARD OF OIL

& GAS OONS. BILLINGS

LOCATION LAYOUT

Gasco Drilling LLC

Fax (406) 434-3863

Phone

TOOL PUSHER TRAILER GENERATOR ROOM 2000 GAL FUEL TANK 1050 X 350 160 BBL Air Compressor Mud WATER TANK Pump INGERSOLL RAND **RD 10** DRILL RIG DOG Suction HOUSE 10' Pit Settling Pit WET PIT <--8'---> 12FT X 12 FT Trench 60 ft ---CELLAR RAMP- > DRILL PIPE WALKINEER TRAILOR ARM Drillpipe racks Casing Racks V

12 FT X 12 FT 6 FT DEEP

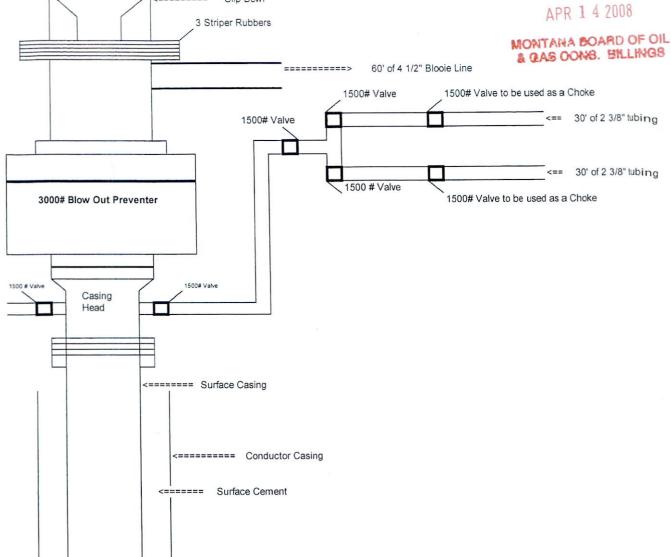
DIMENSIONS OF LOCATION: 200 X 200

SETTLING PIT IS 6' WIDE BY 45' LONG . SUCTION PIT 8' WIDE BY 10' LONG

P.O. Box 963

Shelby, Mt 59474

# RECEIVED



<====== Slip Bowl

**BOP STACK** 

...

RECEIVED

MAY 2 8 2004

ALTAMONT OIL & GAS, INC

APR 1 4 2008

REGAN OFFSHORE INTERNATIONAL, INC.

Torrance, College CAS OONS. BILLINGS

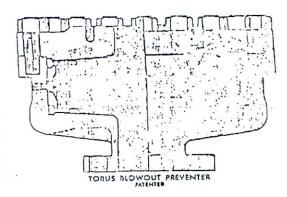
#### REGAN BLOWGUT PREVENTERS

The Regan Torus Blowout Preventer is used primurily on production and workover rigs for well control up to 2000 PSI working pressure

#### DISIGN FLATURIS

- The Thrus Preventer is designed for mininum height to inciliate its use with production and workover rigs.
- b The rubber packer will conform to any object in the well hore. Scaling ability is not affected by minor damage to the inner bore. The packer will Seal on open hole at full working pressure.

The dual packer design increases the reliability of the preventer since the outer rubber is never exposed to the well bore. Under ordinary service, the outer packer is rurely replaced.



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1	) to0	314	;	114/	3430	Non. 1	13	15.0%	

# **B.O.P. SPECIFICATIONS**

FORM NO. 2 R 10/09

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1306, 1309, and 1417

Submit In Quadruplicate To:

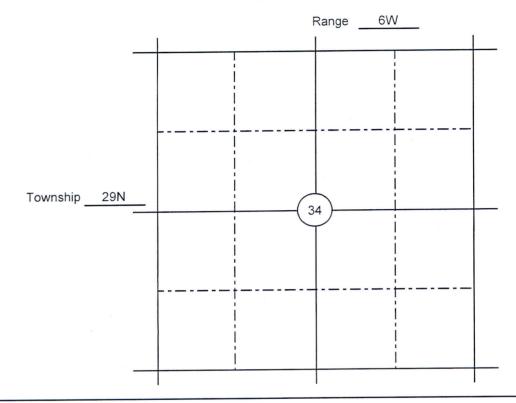
# MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS MONTANA 59102

SUNDRY NOTICES AND REPORT OF WELLS  Operator MOUNTAIN VIEW ENERGY, INC Address PO BOX 200  City CUT BANK State MT Zip Code 59427 Telephone 406-873-2235 Fax 406-873-2835  Location of well (1/4-1/4 section and footage measurements): SSESSW-SECTION 34-T28N-R6W (330° FSL - 2310° FWL)  API Number:  25 1 073   21830	BILLINGS, MONTANA 59102							
Address PO BOX 200  City CUT BANK State MT Zip Code 59427 Trelephone 406-873-2235 Fax 406-873-2835 Location of well (1/4-1/4 section and footage measurements): SESESIA-SECTION 34-T29N-R6W (330° FSL - 2310° FWL)  API Number:  API Number:  Well Type (oil, gas, injection, other):  Oil.  Dits ground findention to Change Plans Notice of Intention to Change Plans Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Abandon Well Notice of Intention to Abandon Well Notice of Intention to Abandon Well Notice of Intention to Change Well Status Supplemental Well History Other (specify) CONVERT TO INJECTION WELL  Organs Signed By George Hudek, UIC Director  JODY FIELD Type (Private/State/Federal/Tribal/Allotted): Pype(Private/State/Federal/Tribal/Allotted): Pype	S	UNDRY NOTICES AI	ND REPORT OF WELLS					
Address PO BOX 200  City CUT BANK State MT Zip Code 59427 Telephone 406-873-2235 Fax 406-873-2835 Location of well (1/4-1/4 section and footage measurements):  SESSEM-SECTION 34-T28N-R6W (300 FSL - 2310 FWL)  Well Type (oil, gas, injection, other):  OIL  API Number:  25	Operator MOUNTAIN VIEW EN	ERGY, INC						
Telephone 406-873-2235  Fax 406-873-2835  Location of well (1/4-1/4 section and footage measurements):  SESESW-SECTION 34-T29N-R6W (307 FSL - 2310* FWL)  Well Type (oil, gas, injection, other):  Township, Range, and Section:  SECTION 34-T29N-R6W  County  Well Type (oil, gas, injection, other):  Township, Range, and Section:  SECTION 34-T29N-R6W  County:  PONDERA  Indicate below with an X the nature of this notice, report, or other data:  Notice of Intention to Change Plans  Notice of Intention to Run Mechanical Integrity Test  Notice of Intention to Stimulate or to Chemically Treat  Notice of Intention to Perforate or to Cement  Notice of Intention to Perforate or to Cement  Notice of Intention to Perforate or to Cement  Notice of Intention to Pull or Alter Casing  Notice of Intention to Change Well Status  Subsequent Report of Production Waste Disposal  Notice of Intention to Change Well Status  Subsequent Report of Canage in Well Status  Subsequent Report of Gas Analysis (ARM 36 22-1222)  Describe Proposed or Completed Operations:  Describe Proposed or Completed Operations:  Describe Proposed operations or the completion date for completed operations.  SEE  STIPULATIONS  ON BACK  The undersigned Negaby Certifies that the interpritation contained on this application of Tire and Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Tille  Control Stands  Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Tille  Control Stands  Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Tille  Control Stands  Control Stands  Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Tille  Control Stands  Control Stands  Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Tille  Control Stands  Control Stands  Control Stands  Control Stands  Control Stands  Control Stands  Control Stands  Control Stands  Control Stands  Control Stands  Control Stands  Control Stands  Control Stands  Control Stands  Control Stands  Control Stands  Control S	Address PO BOX 200							
Telephone 406-873-2235 Fax 406-873-2835  Location of well (1/4-1/4) section and footage measurements):  SESEW-SECTION 34-729N-R6W  (300 FSL - 2310 FWL)  API Number:  25	City CUT BANK State I	MT Zip Code 59427						
SESESW-SECTION 34-T29N-R6W  (330 FSL - 2310 FWL)  API Number:  Well Type (oil, gas, injection, other):  OIL  OIL  Township, Range, and Section: SECTION 34-T29N-R6W  County: PONDERA  Indicate below with an X the nature of this notics, report, or other data:  Notice of Intention to Change Plans Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforation or Cementing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Change Well Status Subsequent Report of Pulled or Altered Casing Notice of Intention to Change Well Status Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)  Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  BOARD USE ONLY  Approved  AUG 1 2011  Date  Original Signed By George Hudak, UIC Director	Telephone 406-873-2235	Fax 406-873-2835						
API Number:  API Number:  API Number:  Well Type (oil, gas, injection, other):  Oil  County: PONDERA  Indicate below with an X the nature of this notice, report, or other data:  Notice of Intention to Change Plans Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Stimulation or Chemically Treat Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforate or to Cement Notice of Intention to Stimulation or Crementing Notice of Intention to Abandon Well Notice of Intention to Prior After Casing Notice of Intention to Prior After Casing Notice of Intention to Change Well Status Subsequent Report of Perforation or Cementing Notice of Intention to Change Well Status Subsequent Report of Production Waste Disposal Notice of Intention to Change Well Status Subsequent Report of Production Waste Disposal Supplemental Well History Other (specify) CONVERT TO INJECTION WELL  Describe Proposed or Completed Operations:  Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  BOARD USE ONLY  Approved AUG 1 2011 Date Original Signed By George Hudak, UIC Director	SESESW-SECTION 34-T29N-R6W	d footage measurements):						
API Number:    Verification   Verifi			LONEMAN COULEE					
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Notice of Intention to Change Plans  Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Change Well Status Subsequent Report of Drilling Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)  Describe Proposed or Completed Operations: Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  SEE STIPULATIONS ON BACK  The undersigned Fereby Certifies that the information contained on this application is frue and correct.  6/21/20  Date  Original Signed By George Hudak, UIC Director  Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Production Waste Disposal Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Production Waste Disposal Subsequent Report of Pulled or Production Waste Disposal Subsequent Report of Pulled or Production Waste D		OIL						
Notice of Intention to Run Mechanical Integrity Test Notice of Intention to Stimulate or to Chemically Treat Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Perforate or to Cement Notice of Intention to Abandon Well Notice of Intention to Pull or Alter Casing Notice of Intention to Pull or Alter Casing Notice of Intention to Change Well Status Subsequent Report of Drilling Waste Disposal Subsequent Report of Drilling Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)  Describe Proposed or Completed Operations: Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.  SEE STIPULATIONS ON BACK  The undersigned Hereby certilies that the inforpriation contained on this application is frue and correct.  6/21/20  Date  Original Signed By George Hudak, UIC Director  Subsequent Report of Stimulation or Cementing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Production Waste Disposal Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casing Subsequent Report of Pulled or Altered Casi	Indicate below with an X the nature	of this notice, report, or other	r data:					
BOARD USE ONLY  Approved AUG 1 1 2011 Date Original Signed By George Hudak, UIC Director  Date Original Signed By George Hudak, UIC Director  SEE STIPULATIONS ON BACK  The undersigned hereby certifies that the information contained on this application is true and correct.  6/21/2011 Date Signed (Agent) Patrick M. Montalban, President & CEO Print Name and Title	Notice of Intention to Run Mechanic Notice of Intention to Stimulate or to Notice of Intention to Perforate or to Notice of Intention to Abandon Well Notice of Intention to Pull or Alter Ca Notice of Intention to Change Well S Supplemental Well History	cal Integrity Test  Chemically Treat  Cement  asing  Status  ECTION WELL	Subsequent Report of Stimulation or Treatment Subsequent Report of Perforation or Cementing Subsequent Report of Well Abandonment Subsequent Report of Pulled or Altered Casing Subsequent Report of Drilling Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)					
BOARD USE ONLY  Approved AUG 1 1 2011  Date  Original Signed By  George Hudak, UIC Director  The undersigned hereby certifies that the information contained on this application is true and correct.  6/21/2014  Date  Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Title								
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BOARD USE ONLY  Approved AUG 1 1 2011  Date			ON BACK					
BOARD USE ONLY  Approved AUG 1 1 2011  Date			The undersigned berefy certifies that the information contained on					
Approved AUG 1 1 2011  Date Date Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Title  (406) 873, 2235	BOADDIISE	ONLY						
Date Signed (Agent)  Original Signed By Patrick M. Montalban, President & CEO  Print Name and Title  (406) 873, 2335	ALIO 1 1 2011	JIL I	6/21/2014 De Adril W.					
George Hudak, UIC Director  Print Name and Title	/ tppiovou	_	Date Signed (Agent)					
(406) 873 2235								
The state of the s	Name	Title						

# SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



#### **BOARD USE ONLY**

# CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

- · Injection well bond required before injecting.
- · MIT required before injecting.
- · Set packer 3328 ft. or deeper
- · Injection pressure limited to 1,019 psig.
- before injecting. (sent to EPA 7-28-11).

Failure to comply with the conditions of approval may void this permit.

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1305, 1309, and 1417

# Submit In Quadruplicate To:

# MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS, MONTANA 59102

JUN - 6 2011

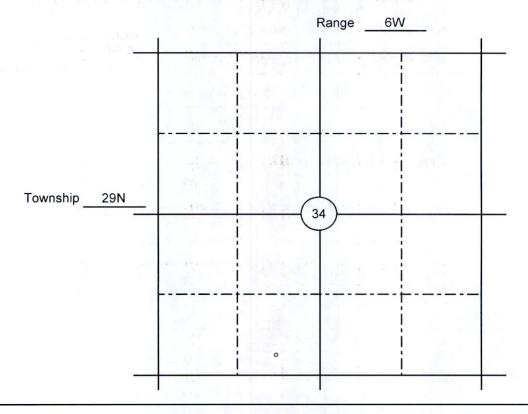
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SUNDRY NOTICES AN	ID REPORT OF WELLS & GAS CONS. BILLINGS
Operator MOUNTAIN VIEW ENERGY, INC  Address PO BOX 200  City CUT BANK State MT Zip Code 59427  Telephone 406-873-2235 Fax 406-873-2835  Location of well (1/4-1/4 section and footage measurements):  SESESW-SECTION 34-T29N-R6W (330' FSL - 2310' FWL)  API Number: Well Type (oil, gas, injection and section and section and section and footage measurements):  ONL  Well Type (oil, gas, injection and sectio	Lease Name: JODY FIELD  Type (Private/State/Federal/Tribal/Allotted): PRIVATE  Well Number: 34-1  Unit Agreement Name:  Field Name or Wildcat: LONEMAN COULEE  Township, Range, and Section:
Indicate below with an X the nature of this notice, report, or other  Notice of Intention to Change Plans  Notice of Intention to Run Mechanical Integrity Test  Notice of Intention to Stimulate or to Chemically Treat  Notice of Intention to Perforate or to Cement  Notice of Intention to Abandon Well  Notice of Intention to Pull or Alter Casing  Notice of Intention to Change Well Status  Supplemental Well History  Other (specify)	data:  Subsequent Report of Mechanical Integrity Test Subsequent Report of Stimulation or Treatment Subsequent Report of Perforation or Cementing Subsequent Report of Well Abandonment Subsequent Report of Pulled or Altered Casing Subsequent Report of Drilling Waste Disposal Subsequent Report of Production Waste Disposal Subsequent Report of Change in Well Status Subsequent Report of Gas Analysis (ARM 36.22.1222)
Describe Proposed or Describe planned or completed work in detail. Attach maps, well-bore or necessary. Indicate the intended starting date for proposed operations of Move in and rig up. Dig drill hole to swab test. Perforate from 3448'-345 3452'-3460' 3460'-3466' 3470'-3480' 3480'-3490' 3490'-3496 Rig up Liquid Gold Well Service and acidize well with 1,000 gallons of 28' Run 4-1/2" packer and tubing in hole. Set packer at 3400'. Test packer	or the completion date for completed operations.  2' and swab test for 4 hours. Additional perforations:
Approved JUN 0 6 2011 Date CHIEF FIELD INSPECTOR Name Title	Date Signed (Agent)  Patrick M. Montalban, President & CEO  Print Name and Title  Telephone: (406) 873-2235

# SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.



### **BOARD USE ONLY**

### CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.



# SPUD INFORMATION

MAY - 5 2008

MONTANA BOARD OF OIL

WELL NAME: Jody Field 34-1	COMB. BILLINGS
API#: 25-673-21830	
LOCATION: S 34 T 29 N 6W SE (Twp-Rge-Sec: 1/4 1/4)	SW
SPUD TIME: Actu DATE: 4-30-08	nal 🔀
DRILLING COMPANY: Gaseo RIG#:# 7	
CALLER'S NAME: Patrick Montalbar	
COMPANY NAME: altamont Oil + G	as, Tue
OTHER:	

# Montana Board of Oil and Gas Conservation Environmental Assessment

Operator: Altamont Oil & Gas, Inc.

Well Name/Number: Jody Field 34-1	
Location: SE SW Section 34 T29N R6W	
County: Pondera MT; Field (or Wildcat) Wildcat	
Air Quality	
(possible concerns)	
Long drilling time: No, 4 to 5 days drilling time.	
Unusually deep drilling (high horsepower rig): No, 3450' TD	
Possible H2S gas production: Yes	
In/near Class I air quality area: <u>No</u>	
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit requ	<u>ired</u>
<u>under 75-2-211.</u>	
Mitigation:	
X Air quality permit (AQB review)	
_ Gas plants/pipelines available for sour gas	
Special equipment/procedures requirements Other:	
Comments: No special concerns – using small rig to drill to 3450' TD.	
Comments. No special concerns – using smalling to unit to 5450 TD.	
Water Quality	
(possible concerns)	
Salt/oil based mud: No, freshwater, freshwater mud system, air, air mist.	
High water table: No	
Surface drainage leads to live water: No, closest drainages are some unnamed	
ephemeral tributary drainages to Dupuyer Creek, about 3/8 of a mile to the west and	1/2
mile to the northwest from this location.	
Water well contamination: No, closest water wells are about 3/4 of a mile to the nor	
and south of this location and these wells are 207' and 90' in depth. Surface casing	WIII
be drilled with air and/or freshwater mud to 650' and steel surface casing set and cemented to surface from 650'. Small spring located on topographic map, about 1/8	ofa
mile to the northwest from this location.	or a
Porous/permeable soils: No, sandy bentonitic soils.	
Class I stream drainage: No	
Mitigation:	
Lined reserve pit	
X Adequate surface casing	
Berms/dykes, re-routed drainage	
Closed mud system	
Off-site disposal of solids/liquids (in approved facility)	
Other:	
Comments: 650' of surface casing will be set and cemented to surface adec	
to protect freshwater zones. Also, fresh water mud systems or air to be used for dri	iing
surface hole.	

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No, no stream crossings.
High erosion potential: No, small cut, up to 4.7' and small fill, up to 3.3', required.
Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If
productive unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, 200'X200' location size required.
Damage to improvements: No, surface use is cultivated field (CRP).
Conflict with existing land use/values: Slight
Mitigation
Avoid improvements (topographic tolerance)
Exception location requested
X Stockpile topsoil
Stream Crossing Permit (other agency review)
X Reclaim unused part of wellsite if productive
Special construction methods to enhance reclamation
Other
Comments: Access will be over existing county road, Barrett FLDS. A short road will
be constructed, about 300' into this location. Drill cuttings will be buried in the unlined
cuttings pit. Drilling fluids will be allowed to evaporate in the pits. No special concerns
Health Hazards/Noise
Health Hazards/Noise
(possible concerns)
Proximity to public facilities/residences: Closest residence buildings about 3/8 of a mile
to the east of this location.
Possibility of H2S: Yes
Size of rig/length of drilling time: Small drilling rig/short 4 to 5 days drilling time.
Mitigation:
X Proper BOP equipment
Topographic sound barriers
H2S contingency and/or evacuation plan
Special equipment/procedures requirements
Other:
Comments: No concerns
Wildlife/recreation
(possible concerns)
Proximity to sensitive wildlife areas (DFWP identified): None identified.
Proximity to recreation sites: <u>Lake Frances about 7.5 miles to the northeast.</u>
Creation of new access to wildlife habitat: None identified.
Conflict with game range/refuge management: None identified.
Threatened or endangered Species: None identified.
Mitigation:
Avoidance (topographic tolerance/exception)
Other agency review (DFWP, federal agencies, DSL)
Screening/fencing of pits, drillsite
Other:
Comments: Private surface lands. No concerns

Historical/Cultural/Paleontological (possible concerns) Proximity to known sites: None identified, private surface. Mitigation avoidance (topographic tolerance, location exception) X other agency review (SHPO, DSL, federal agencies) Other: Comments: Private surface. No concerns. Social/Economic (possible concerns) \_\_ Substantial effect on tax base \_\_ Create demand for new governmental services Population increase or relocation Comments: No concerns. Remarks or Special Concerns for this site Well is a 3450' Madison Formation test. Summary: Evaluation of Impacts and Cumulative effects No, significant impacts expected, some short term impacts are expected, but should be able to mitigate these short term impacts. I conclude that the approval of the subject Notice of Intent to Drill (does/does not) constitute a major action of state government significantly affecting the quality of the human environment, and (does/does not) require the preparation of an environmental impact statement. Prepared by (BOGC): Steven Sasaki (title:) Chief Field Inspector Date: April 15, 2008 Other Persons Contacted: Montana Bureau of Mines and Geology, GWIC website (Name and Agency) Pondera County water wells (subject discussed) April 15, 2008 (date) If location was inspected before permit approval:

Inspection date:

nspector:		
Others present during inspection:		

BEFORE THE BOARD OF OIL AND GAS

CONSERVATION

CONSERVATION

INTENTION TO APPLY
FOR PERMIT TO DRILL

ALTAMONT OIL AND GAS WELL

ALTAMONT OIL & GAS. INC

1. PO Box 488
Cut Bank, Montana 59427

SE458W4 - Section 34-T29N-R6W

Ponders County, Montana
3,500 Fell & Ray.

3. Total Depth Proposed to be Drilled.

Notice is hereby given that an application for permit for drill an oil and gas well at the surface location set and before the depth as stated will be filed with the ant of Rules 36.22.601 and 36.22.604. Administrative Rules of Montana, an interested party may despend of Oil and Gas Conservation. Pursumand an opportunity to be heard by the Montana Baprication. SUCH DEMAND FOR HEARING MUST SURFACTION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) AND GAS CONSERVATION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) ACTED UPON BY THE BOARD'S PETROLEUMEN. THEIR NOTICE, OR THE APPLICATION OF GINEER WITHOUT HEARING, A DEMAND MUST. THEIR OWNERSHIP INTEREST IN THE LANDS SERVED DATON SERVED SURROUNDING THE PROPOSED WELL, AND THE SERVED UPON THE RAPING IS SOUGHT; (2) BE MARLED OR FAX THANDS MULLS THE AND THE SERVED UPON THE APPLICANT BY COPY MARKELS SERVED UPON THE APPLICANT BY COPY MARKELS SERVED UPON THE APPLICANT BY COPY MARKELS SERVED UPON THE APPLICANT BY COPY MARKELS SERVED THE ADDRESS SETFORTH ABOVE.

Montana Board of Oil and Gas Conservation 2535 St. Johns Avenue Billings MT 59102 Office: (406) 655-0040 Fax: (406) 655-6015

# AFFIDAVIT OF PUBLICATION STATE OF MONTANA,

County of Lewis & Clark,

() I V

APR - 9 2008

MONTAHA BOARD OF OIL & GAS CONS. BILLINGS

**Beverly Allison** 

Being duly sworn, deposes and says:

That she is the principal clerk of the Independent Record a newspaper of general circulation published daily in the City of Helena, in the County of Lewis & Clark, State of Montana, and has charge of the advertisement thereof:

That the Oil & Gas - Jody Fields #34-1

a true copy of which is hereto annexed, was published in said newspaper on the following dates: viz.: April 5, 2008

making in all\_\_\_\_\_publication(s)

weelly of alleson

day of April

Subscribed and sworn to before me this 5

Belmingan

NOTARY PUBLIC for the State of Montana Printed Name: Rose Marie Farr Residing at Helena, Montana My commission expires 8-15-2010

(NOTARIAL SEAL)

# Affidavit of Publication

RECEIVED

APR 1 4 2008

Montana Board of Oil & Gas Ooms. Billings

STATE OF MONTANA) County of Pondera) ss. John H Lee being duly sworn upon his oath says: That he is the Publisher of "The independent-Observer," a weekly newspaper of general circulation, published weekly at Conrad, in the County of Pondera, State of Montana. That the notice hereunto attached was published in the said "Independent-Observer" once each week for ... I. ve... successive weeks. That the first publication of said notice was on the 10 day of April 20.08 That the last publication of said notice was on the That the said notice was published in the regular and entire issue of every said "Independent-Observer" during the period and time of said publication, and in the newspaper proper, and not in a supplement. Title: Publisher Sworn to and subscribed before me this 10 day of April , 20.08 Nancy Zelenka Notary Public for the State of Montana, residing at Conrad, Montana. My commission expires

June 1, 2010

CONSERVATION OF THE STATE OF MONTANA In the Matter of the application of TINTENTION TO APPLY ) FOR PERMIT TO DRILL ALTAMONT OIL & GAS, INC. OIL AND GAS WELL for a Permit to Drill an oil and gas well.) 1. PO Box 488 Cut Bank, Montana 59427 2. Jody Fields #34-1 SE/4SW/4 - Section 34-T29N R6W (330' FSL x 2310' FWL) Pondera County, Montana 3. Total Proposed Depth: 3,450' Notice is hereby given that an application for permit to drill an oil and gas well at the surface tocation set forth above to the depth as stated will be filed with the Montana Board of Oil and Gas Conservation. Pursuant to Rules 36.22.601 and 36.22.604, Administrative Rules of Montana, an interested party may demand an epportunity to be heard by the Montana Board df Oil and Gas Conservation concerning the application. SUCH DEMAND FOR HEARING MUST BE RECEIVED BY THE MONTANA BOARD OF OIL AND GAS CONSERVATION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) DAYS AFTER THE DATE OF PUBLICATION OF THIS NOTICE, OR THE APPLICATION WILL BE ACTED UPON BY THE BOARD'S PETROLEUM ENGINEER WITHOUT HEARING. A DEMAND MUST: (1) SET FORTH THE NAME, AD-PRESS AND TELEPHONE NUMBER OF EACH INTERESTED PARTY, THEIR OWNERSHIP INTEREST IN THE LANDS SURROUNDING THE PROPOSED WELL. AND THE REASONS WHY A HEARING IS SOUGHT; (2) BE SERVED I IRONLTHE ARRESCANT BY CORY MALLER OR FAX TRANSMITTED TO THE ADDRESS SET FORTH ABOVE. Montana Board of Oil and Gas Conservation

BEFORE THE BOARD OF OIL AND GAS

LEGAL NOTICE

RECEIVED APR 1 1 2008

2535 St. Johns Avenue

Published April 10, 2008

Billings MT 59102 Office: (406) 656-0040 Fax: (406) 655-6015 05/05/2008 12:37 4064343963 GASCO DRILLING PAGE 01/01

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# LIQUID GOLD WELL SERVICE, INC.

Cement Work Order Phone 406-873-2966 Fax 406-873-2997

Rev. 4-07

# RECEIVED

P.O. Box 757 Cut Bank, MT 59427

1 ax 400-07	3-2991		JUN - 9 2008		Cut Bank, IVIT 59427
				Invoi	ce #
Company	Altan	ont	MONTANA BOARD OF OIL & GAS CONS. BILLINGS	Date 5	1-08
Address				and a second	Twn. 29 N Rng. 66
City/State				County Pa	nocea
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Date

# LIQUID GOLD WELL SERVICE, INC.

Ceme	nt Work Order
Phone	406-873-2966
Fox	406 972 2007

Rev. 4-07

# RECEIVED

Fax 406-87				- 100	P.O. Box 757 Cut Bank, MT 59427
		1	JUN - 9 2008	Invoice #	2048
0	Alfamon	_	MONTANA BOARD	OF OIL	
Company/	THATION	-	& GAS CONS. BILL		.29N Rng. 6W
Lease		Well #34-1		Field Jody F	
Long String	V	Surface Pine	P&A	Camera	
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# RECEIVED

Date 5	-16-08	16)652-4400	OMPETITIO	7	'069 Niehenk	a Ave.	Y 2 8 2008 V
	14557 LEASE/LO	-		10) 3	Billings, Monta -1 – 1	MONTAN 8 CAS C	ia Board of Oil Dong. Billings
	Montana		Pondera	LEGAL	5E 5E	SJY -28	-11-6W
	4071 KB ELEVA		DRILLER TO 35			ati	. 7
	ON PERSONNEL S	Seifert	, J 13 row		UNI	1.11150	Cut Bank MI
COMPANY _	Altam	snt0.18		ВУ	Que al	1,00	
ADDRESS -							
	ITEM	vices is requested to po	erform the following services  AMOUNT	s according to the te		the reverse of this ORMATION	order.
4500				Casing	Lb/Ft	From	То
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<u> </u>	E Pickup		.per mile .per mile	7,5	7.57	Surface	3540
	Mast/crane		per mile		<del> </del>	-	+
Service 4	536 Simularia		GL.			·	
Depth	3496			Fluid Later	ارا	Level (surf)	170
Oper.	min ook	cation ch	<del></del>	Competition m	easurements	are from (check	One):
			<del></del>	KB _		3L	Prev. Logs
Service 41	538 Acoustic	Cement Bone	loa	cws to	496	Driller TD_	3540
Depth	3496			Plug model _		Size	. Depth
Oper.	míz ope	ration che	<u>-</u> →	Packer _			Depth
-	7 7 7 7	1 /01/28/11	- <del>12</del> .				. Depui
Service 46	50 /20tocate	W/3/K HF	<u> 3/124</u>		PER	<u>FORATIONS</u>	
Depth	3732.		. \	interv			PF Total #
Oper.	45 Bun Barr	1 4	<del></del>	3428-	5432	(4) (	4 17
Service	13 DUALDIT	217:			<del></del>		
Depth			<del></del>				<del></del>
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			<del></del>		<del></del>		<del>-   </del>
Service							<del></del>
Depth							
Oper.							
		<del>/ 1/                                  </del>		TOTAL PER	FORATIONS:	17 Tito	1/9 gran
Service		(capthing)	and to	TOTALTER	- CIOTIONS.	Prosi	e cro
Depth		11/	1 24	AFE #:			
Oper.		(m-T/ The	12 DX7	APE#25-	<u>073-2</u>	1830	<u> </u>
	<del>/-</del>	<del>// /: /</del>	<del>2  / )</del>	Remarks:		<del></del>	
Service	<del></del>	Hay Const	Din 9	+		<del></del>	<u> </u>
Depth		- of - 10 h	vik /	<del> </del>			
Oper.	EQUIPMENT, RE	NTALS, PERSONN	<del>'</del> EL				<del></del>
			_ i	<del></del>	<u> </u>		
4592	Accesure Contro	VFG-LCF					
		subtot	a(				
		disco	ente	>			<del></del>
		subtoto					
	MAT	ERIALS					
		<del></del>					
رہے رہے ں	E (1200)		<del></del>				<del></del>
4518	EH35 Cho	rge				,	
4504	Mileace 80	Miles			·		<del></del>
	<u> </u>	fieldto	E(				
			<del></del>				<del></del>
		Sub total	Ì	46a · ·	Onto :	M. T	//
		Other	BOES	Witnessed by:	TOUTE !	Monta buch Seit	gan_
		TOTAL CHAP Sales Tax	ngeo	Jompetition W	<u> ۱416 ک</u>		<u> </u>
		Sales 18X	RGES			(Please Print)	

Original - Please pay from this Invoice - Due 30 days from above date.

		<b>.</b>	COM		M	ICO Nichania	Aug	Ajelb	7
ate 52	29-(	<u> </u>	-4400 <b>GOM</b>	PE II II II Q Ing services-		69 Niehenke Ilings, Montar			
		62 LEASE/LOCATIO	Williams	2 Fich)	34-1	N			
				3,		1600	- 1 71	1 20	11 41
TATE	M	ontana	COUNTY	nckra	LEGAL 🕹	CJE	SW 34	1-27	W-DN
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		(	^	Brown,		_ )	11118	Post	Bor
OMPETITION	PERSO	NNEL J	iler, O	5,000		ONI	10 1/		291121
OMPANY		AHamont	0118600	3	BY_	lesco	lott	2	<u> </u>
	,								
DDRESS	Compe	etition Wireline Services	is requested to perform th	e following services	according to the ter			s order.	
		ITEM		-		Lb/Ft	From	-	То
4501		ERVICE CHARGE:		-	Casing	17#	C.C.	1	70
	-	ERVICE CHARGE:		-	4511	9.50	Sucher	35	40
	age	ogging unit ckup ast/crane	@per mil @per mil			1.34	001/000		, ,
	₩ K	ast/crane	_@per mil	<u>e</u>					
Service 40	50	Perforate u	J3/4HPSic	4	Eluid #1	Water	Level (surf)	1130	3 `
Depth		3446	opphiche	<u> </u>			s are from (chec		
Oper.		1/shot@mi	n shot che	<u>.</u>	KB _		GL	Prev. L	ogs 🔀
	45	OWN /SOCIE	7 7	L	CWS TD 3	496	Driller TD	355	10
Service Depth					Plug model _		Size	Depth	
Oper.			REC	CEIVED	Packer _		Size		
					rackei -			Depui	
Service			JU	N 0 4 2008		0.000	RFORATIONS		
Depth			MONTAN	A BOARD OF O	IL 7442-	7446	(4)	SPF 4	Total #
Oper.			& GAS C	ONS BILLING	5/19	7770			,,
Service									
Depth									
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Service									
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Service					TOTALTE			9050	ctot
Depth				-	AFE #:	20 1	77 91-		
Oper.		-				25-0	73-218	30	
					Remarks:			_	
Service		1 1 2							
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-p		EQUIPMENT, REN	TALS, PERSONNEL					-	
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77/1	-	TIPS CA	Grafaltont.	7	_	77		/	
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			Other		Vitnessed b	y: Fate	ch Mo	stall	20
			TOTAL CHARGE	S	Competition	ws 5	Bucks	eter	6
			TO TAL CHARGE	77	30mpounon			1. /2	
			Sales Tax TOTAL CHARGE		Jonn poulue.		(Please Pri	nt)	

Date _ 5-	-21-0	\$ (406)	<b>—</b> 652-4400	COMP	PETITION		069 Niehenke illings, Monta		
		LEASE/LOCA		4	()	34-		: 1 74	~~ · · · · · ·
							0 1	,	29N-6W
ELEVATION_4	1071	_ KB ELEVATION	N 407	,	ILLER TO 35 Y				<i></i>
COMPETITION	PERSONNE	55	eiter			ABrow	~ J Bro	#115/	Cut Bank M
		amor	10	( \$ G.	s Inc		206	Veill	
OMPANY	PIII	amon	0 0	1 9 1/2	3 Inc	BY	The W	alast C	
ADDRESS					faller des series s			the reverse of this o	
	Competition	ITEM	es is requeste	ed to perform the	following services a	ccording to the te		ORMATION	order.
4501	SERVI	CE CHARGE	Tre	nch		Casing	Lb/Ft	From	То
	1					フ"	17#	Surface	675
	ည္ Loggin	g unit	@	per mile per mile per mile		4.5"	9.54	Surface	3540
	Pickup	-	@	per mile		4			
ania (1)		rane	<u> </u>	per mile					
Service 46 Depth	50 Pc	147 C	18/1	t dother		Fluid		Level (surf)	
per.	9.	shot 6		ot cha				are from (check	
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Service						CWS TD _	496	Driller TD _	
epth						'lug model _		Size	Depth
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Corvino							PEF	REFORATIONS	
Service Depth						Inter			PF Total #
oper.						3440-	3442	(2)	
Service								RE	CEIVED
Depth									
Oper.								MA	Y 29 2008
Service								MONTAN	A BOARD OF OIL
Depth								a GAS (	OMS. BALINGS
Oper.									
						TOTAL PER	RFORATIONS	s: 9 Tital	19 gram
Service								Prospi	ctal
Depth						AFE #:	5-078-	21830	
Oper.				-		Remarks:		01030	
Service				•		Remarks			
Depth						//		,	
Oper.							111	1 1/1	66 1
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			SUL	stotal		-	-/	71	2.
		MAT	ERIALS					677	
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4518	EHB	01	arge						
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				AL CHARGES s Tax		competition \	ws Sto		IICS D
				AL CHARGES				(Please Print)	
Original - Plea	ase pay from	this invoice - Du			Ŀ				

529	2-08 (406)652-4400 COM	PETITIO UMB SERVICES		69 Niehenke lings, Montar		Stelbyr
	562 LEASE/LOCATION	UFIED	34-1			
E	Montana county Ro	nekra	LEGAL 🍒	ESES	SW 34	2911-6
ATION 40	77 KB ELEVATION 4076	ORILLER TO 35	40 FIELD	Filele	cets /	7
PETITION PER	CCILIT I					Cut Box
		•	10,00	A	10 1	
PANY	Attament Oil BGC	>	BY	CIE	love	
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Cor	mpetition Wireline Services is requested to perform the ITEM	ne following services a	ccording to the terr		ORMATION	rder.
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	SERVICE CHARGE:	_	フ゛	17# .	Sufface	675
ag	Logging unit@per mil		4.5"	9.5#	Surfece	35401
Milea	Logging unit		-			
ce 4650	Perfocate W31/9HPSic	<del></del>	A-1	1126-		1201
.200	3446 soth che	L	Fluid 11/			130
	17 shot @min shot che	_			are from (check of	One): Prev. Logs 🔀
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-	REC	CEIVED			Size	
		The second second second	Packer		Size	Depth
e	JU	N 0 4 2008		PER	REFORATIONS	
-	MONTAN	A BOARD OF OIL	Interv	als	SF	
-	& GAS C	ONS BILLINGS	3742°3	440	(4) 4	17
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					Section 2	
ce						
			TOTAL PER	EODATIONS	17 1	tan 199
ce			TOTAL PER	FURATIONS	A	spete
			AFE #:	20 11-	20.0.	7
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ce					The second	
	EQUIPMENT, RENTALS, PERSONNEL			~ /		1
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SOU M	Meage 80 miles			1		
518 E	HBS Charge			Ind i	Lue ,	
	Allege 80 miles HBS Charge Field total	<u>'</u>				
		-				
	Sub total		A/II-	Pote	el Most	6 Mm
	Other TOTAL CHARGES	s	Vitnessed by: Competition W	70	mil	Let.
	Sales Tax		Joinpelluon W		(Please Print)	II V
	TOTAL CHARGES	3			(	
inal - Please p	pay from this invoice - Due 30 days from above date.	•		040		

Date _	5-	16-	08	<b>-</b> (406)652-4400	COM	PETITIC	7	069 Niehenke Billings, Monta	e Ave. ana 59101	MAY 28	ARD OF OIL
INVOIC	E# 1	45	57 LEASE	/LOCATION	50	du Fiz	(c) 34	1- (	8. C	as oons	. BILLINGS
STATE	_/	Mo	intana	COU	NTY POP	dera	LEGAL	SE SE	554-	28N	-6W
ELEVAT							40 FIELD			17	
COMPE				Seife	rt, J	Brow		1	1	5 Cut	Bank
СОМРА	NY		Altan	ront 0	1186a	s, Inc	BY	Tu as	100		
ADDRE	ss										
		Comp	etition Wireline	Services is request	ed to perform th	AMOUNT	according to the te		the reverse of		
45	- 1			RGE: Tru		-	Casing	Lb/Ft	From		To 575'
		e Lo	ogging unit	RGE: 	per mile	- e	4.5"	9.5#	Sucha		540
		iea iea	ckup	@	per mile	е					0
		≥ M	ast/crane	@	per mile	9					
Service	45	36	Simulan	ious Game	rakay	_	Fluid Lk:	tor.		1270	. \
Depth			3496			_	Competition -		Level (surf)	1210	)
Oper.			mino	peration	cha	_	Competition m				1 -
	9 ,	201	1		7	-			GL		Logs
Service	45	38		a Cement	Bond log	-	CWS TD _3	716	Driller	TD 33	90
Depth Oper.			3496	ocration	-1/	j	Plug model _	5	Size	Depth	ı
Орсі.			MIL OF	RIAMOR	eng	-	Packer _		Size	Depth	1
Service	4/5	0	Perfora	4 1.7/2%	"HPSITCE			PER	FORATION	ıs	
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Oper.			min she	t charge		-	3428 -	3472	(4)	SPF 4	Total #
	464	5	Gun Bo	rrel 4		-	2 1010	/ / 3/3			-
Service						-	-				
Depth						_					1 1 1 1 1
Oper.						-					
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Service						-	-				
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Service			-16-	Captor	1000	100			Pro	OSPECT	8
Depth Oper.			A	Hart	Till	34-1	_  AFE #:				
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					Itotal.						
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				Other			Vitnessed by:	Potrice	Mor	talla	n
					L CHARGES		Competition W	s Star	buchs	eitert	-
				Sales					(Please Pr		
				TOTAL	LCHARGES	L					

Original - Please pay from this invoice - Due 30 days from above date.

6-6-11

Sales Tax

**TOTAL CHARGES** 

Mow-Jody Forder 34-1

Original - Please pay from this invoice - Due 30 days from above date.

Submit In Quadruplicate To:

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1306, 1309, and 1417

MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS, MONTANA 59102

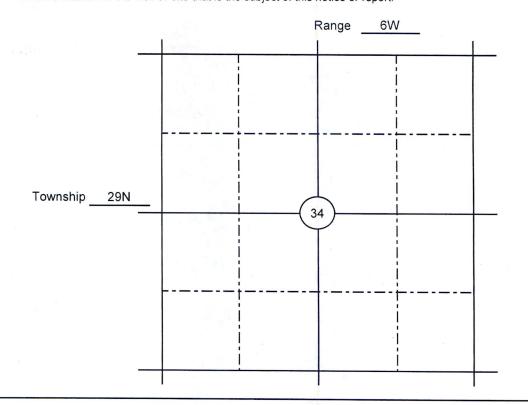
SEP 06 20'

OIL as

	BILLINGS, WIC	ZINI ANA S	9102	ANA DI	OARD
S	UNDRY NOTICES AN	ID REPO	RT OF WELLS	& GAS CON	S. BIL
Operator MOUNTAIN VIEW ENE Address PO BOX 200  City CUT BANK State M Telephone 406-873-2235  Location of well (1/4-1/4 section and NENWSSY)-SECTION 34-T29N-R6W (2310' FSL - 990' FWL)  NWSW  API Number:  25   073   21838	MT Zip Code 59427 Fax 406-873-2835	on, other):	Lease Name: JODY FIELD  Type (Private/State/Feder: PRIVATE  Well Number: 34-2  Unit Agreement Name:  Field Name or Wildcat: LONEMAN COULEE  Township, Range, and Se SECTION 34-T29N-R6W  County:	al/Tribal/Allotted):	
<b>25</b> 073 21838 State County Well	INJECTION		PONDERA		
Notice of Intention to Change Plans Notice of Intention to Run Mechanic Notice of Intention to Stimulate or to Notice of Intention to Perforate or to Notice of Intention to Abandon Well Notice of Intention to Pull or Alter C Notice of Intention to Change Well S Supplemental Well History Other (specify)  Describe planned or completed work in necessary. Indicate the intended startir Well hooked up and commenced injection	cal Integrity Test c Chemically Treat c Cement d Sasing Status  Describe Proposed or detail. Attach maps, well-bore congular data for proposed operations of	Subseque Subseque Subseque Subseque Subseque Subseque CONVEF Completed onfiguration di or the complet	agrams, analyses, or other info	Treatment Cementing ment ed Casing Disposal aste Disposal ell Status (ARM 36.22.1222)  ormation as	
Approved SEP 0 6 2011 Date Original Signed By George Hudak, UIC Dis	<del></del>	this applic	Joseph P. Montalban, V.  Print Name and	Signed (Agent) P. of Operations d Title	
Name	Title	Telephor	ne:(406) 8	873-2235	

# SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request. Plot the location of the well or site that is the subject of this notice or report.



## **BOARD USE ONLY**

# **CONDITIONS OF APPROVAL**

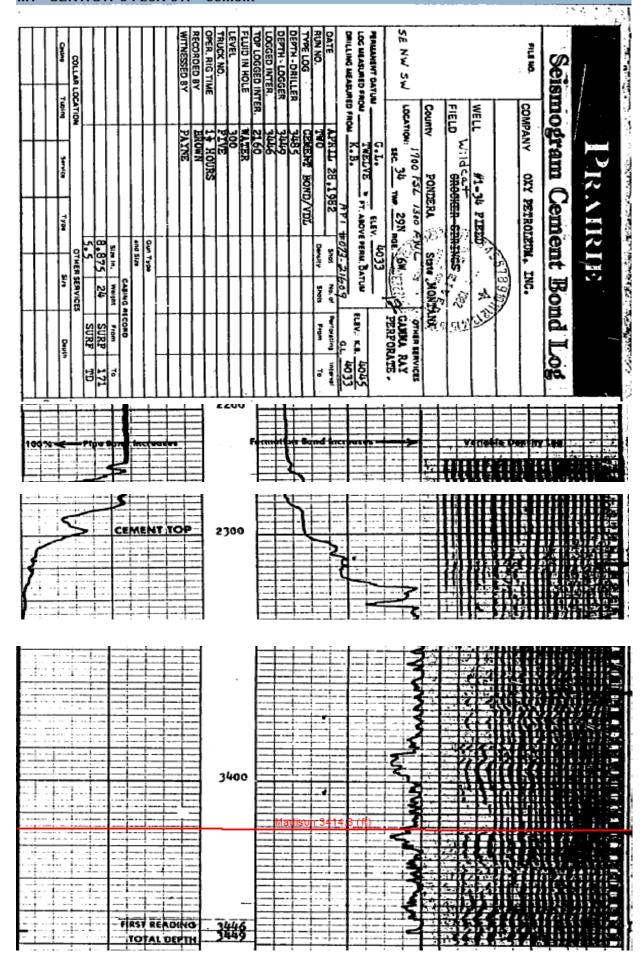
The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

## **Privileged and Confidential**

# **EXHIBIT B**

Well Records for Jody Field 14-34 and Jody Field 4-1A



LOCATE WELL CORRECTLY

34 0

# (SUBMIT IN TRIPLICATE) TO

# BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA BILLINGS OR SHELBY

# ARM 36.22.307 ARM 36.22.1011 ARM 36.22.1013

# COMPLETION REPORT

Company A	Leas	eFIEI	LD		We	ell No. 14-34			
AddressP	0 вох 48	88 - CUT BA	NK MT	59427	Fi	eld (or A	Area) WII	LDCAT	
The well is	located_9	990' ft. fro	XX n (S) lin	e and 165	0'_ft. fi	XEX rom (W)	line of Sec.	34	
Sec. 34	·T 29	)N : R. 6	₩: Coı	intyPO	NDERA			_; Elevation	4049 GL (D.F., R.B. or G.L.)
							*		
Commence	d drilling_	August 27	, 2008	, K	MA_; CO	mpietec	1 Augus	1 1	, <b>xø</b> x
Write the A	PI# or the	e well name	of anoth	er well on	this lea	se II on	e exists	he cummary	on this page is for
The info	ormation g on of the v	given herewit well at the ab	h is a cor ove date	mplete and :.	correct	record	of the well. I	The Summary	on this page is for
Completed	as OII	WELL			Signe	d DATED T	CK M. MON'	RAT RAN	
API#25- C	(oil well,	gas well, dry noie,			Title	PRESI	DENT & CE	O CALDAN	
AP1# 25	773- 2179	+0							
					Date .	SEPTE	EMBER 14,	2009	
			IMPO	RTANT ZO	ONES OF	PORO	SITY	1	
240	2	(denote oil	by O, gas	s by G, wat	ter by W	; state i	formation if	known)	
17	to	3415 - 0 &			From		to		
From	to				. From.		to		
From	to				From		to		
				CASIN	G RECO	RD			
Size	Weight			Casin	r Cot	From	То	Sack of Cement	Cut and Pulled from
Casing 7"	Per Ft. 17#/ft	Grade LTD	Thread ST&C		' KB	0	161'		Class G Cement
4-1/2	9.5#/1	ft API	ST&C	340	5' KB	161'	3405	50 Sacks	3% CaCl Class G Cement
									1
				TUBIN	G RECO	RD			
	Size Weight Tubing Per Ft.			Grade Thread Amount Perforations					
	2-3/8" 4.7#/ft		J55	ST&C		108 jts	None		
	70			COMPLE	TION RE	CORD			
Rotary tools were used from0							to3,	415'	
Cable tools	were use	d from					to		o _3,415'
Total depth	3,415	_ft.; Pluggeo	back to	)	1.D.;	Open n	iole Ironi	3403	0
PERFORATIONS				ACIDIZED, SHOT, SAND FRACED, CEMENTED					
Inter	PERFORATIONS  Interval Number and		Interval			Amount of			
From	То	Size and Ty	ре	From	То	-	Material Use	u	Pressure
		None					None		
	1						If P&A show plu	gs above)	
				INITIAL	PRODUC	CTION			
		W- 14	. / C D				. •		
Well is prod	ducing fro	m Madisor	i/ auii R	TAGE	(po	ool) fort	nation.		
<b>I.P.</b> 5	ba	arrels of oil p	er	24h	ours	(	or flowing)		
		1000				(pumping	or nowing)		
X <del>XXX</del>	_Mcf of gas pe	erho 5		of water per_	24	_hours, or	·% '	w.C.	

		C	asing	p	osi flowin si flowin	g;			psi shut-i psi shut-i
ravity_	0	° API (c	corrected to 6	60° F.)					
		220 0		100 m		Vev			
							Average Connat	e water	
ype of	trap								
roduci	ng mecha	nism					-1		
				DRILL	STEM 1	CESTS	*		
D.S.T. No.	From	То	Tool Open (Min.)	Shut-In	F.P.	S.I.P.	Reco	overy	Cushion
		NONE						27	
				- p - 3 (a - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 -	Angeron de la composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition dell				
				1					
No.	Intern	COR	Recove	ared .			Type	RUNS	То
	mtern	vai	RECOVE	reu		GAMMA	RAY CCL LOG		
	NONE							TOTAL SECTION	
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		SEE	ATTACHED						

# Tops based on Kelly Busing Elevation 4054' KB:

+2290
+2252
+2192
+2043
+1935
+1700
+1656
+1533
+1490
+ 975
+ 938
+ 890
+ 817
+ 763
+ 683
+ 652
+ 639
+2192 +2043 +1935 +1700 +1656 +1533 +1490 + 975 + 938 + 890 + 817 + 763 + 683 + 652

# OPERATIONAL SUMMARY

and

# GEOLOGICAL WELL HISTORY

Altamont Oil and Gas Inc. Altamont/Jody Field No. 14-34 SESW Section 34-T29N-R6W (990' FSL – 1650'FWL) Glacier County, Montana API No. 25-073-21740

Wildcat

Patrick M. Montalban Petroleum Geologist P.O. Box 488 Cut Bank, Montana 59427

### Resume

Spud Date:

August 27, 2008 August 30, 2008

Completion Date: Status:

Madison Sun River Dolomite "Wildcat

Oil Well Discovery"

Eleavtion:

4049'GR. 4054'KB.

Total Depth:

3415' Driller

Casing:

Ran 4 joints 7",17#/ft,ltd,8rd,ST&C,Rge 3 (164.0") set@161.0KB cemented with 50sx

Class G cement,3%Calcium Chloride

Ran 83 joints 4 1/2",9.5#/ft,8rd,ST&C,Rge 3

(3412') set @3405' KB cemented with

50 sx Class G

Contractor:

Sundance Exploration LLC Rig No.5 Ingersoll- Rand (Tophead Drive)

Type Rig:

Oilwell 214P (6" x 14")

Mud Pump:

Ingersoll- Rand (1250mmcf 350psi)

Air Compressor: Air Program:

Surface to 3415'

Mud Program:

None

Hole Size:

8 3/4" (0-165') 6 ½"(165' – 3415 ') 4 1/2" O.D. x 4" I.D. (16.60 #/ft.)

Size Drill Pipe:

4 <sup>3</sup>/<sub>4</sub>"O.D. x 2 1/8" I.D.(121')

Size Drill Collars: No. Drill Collars:

4 = 121'

Sample Intervals:

None None

Sample Quality:

None

Cores:

None

Drill Stem Tests:

None

Air Drilling Summary
Drilled 3 7/8" hole with air mist from surface to 3415'.

# Sample Distribution

None Required by the Montana Oil and Gas Conservation Commission, 2535 St. Johns Ave., Billings Montana in accordance with Rule No. 229

Logging Summary
No Logs Run.

# Mud Summary None

				Bit Reco	<u>rd</u>			
No.	Size	Make	Type	Interval	Footage	Hours	Jet Size	Serial No.
		HTC	STX-20	0 - 77	77	3.00	open	ER8776
2	3 7/8"	HTC	ER-20	77-3415	3338	18.75	open	none

# Daily Activity Summary (Calendar Days)

August 27,2008

Moved in and Rigged up Sundance Exploration LLC Rig No. 2. Spud 6 ¼" hole at 11:45A.M. Drilled 6 ¼" hole with air mist from 0' to 77' inside 7" surface casing. Drillled 3 7/8" hole with air mist inside the 4 ½" casing. Lower camera inside 7" casing. Trip tubing into the hole and place 2 gallons of 28% Hcl inside 4 ½" casing. Lower camera inside 7" casing and concluded 4 ½" casing to be clean.

August 28,2008

T.D. 77'. Load 4 ½" casing. Unload and strap 4 ½" casing. unload 2 3/8" tubing. Rig up 7" x 4 ½" wellhead. Trip In 4 ½" casing and sting into casing. Pulled 5000#/s on 4 ½" casing and set in slips. Nipple up diverter head. Drilled 3 7/8" hole with air mist from 77' to 2400'.

August 29,2008

Drilled 3 7/8" hole with air mist from 2400' to 3415'. Total Depth 3415' by operator. Repair rig.

August 30,2008

T.D. 3415. Start and warm rig. Blow well down and recovered highly oil cut water. Set tubing in slips. Rigged down. Report Ends.

	ervices	Other Services			
					3
	Record	Tubing Record			18.2
					AFE Number
				25-073-21740	API Number
				****	Jement lime
1				3.875"	DIISIZE #Z
	Surface	9.5#	4.50"	6.250"	Jita #1
	Surface	17.0#	7.00"	15637	Difference INO.
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	Record	Casing		TALKICK MONIALBAN	Perninged By
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@		lo	From	1115 CHT DANK BAT	Equipment No
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(8)		10		****	Level
@		10			Fluid in Hole
(6)		7 2	From	1200'	Top Interval
		To .	From	3401'	Bottom Interval
9		To	From	3403'	Depth - Logger
9		То	From	3415	Depth - Dillel
			Size	GAMMA RAY/CCL	Donth Dellas
			Gun Type	ONE	OG TWO
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Elevation		- 1	CBOIND DA	Permanent Datum	
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nterpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or extness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

ient Type:

elated to: Logged From Kelly Bushing Measurement.

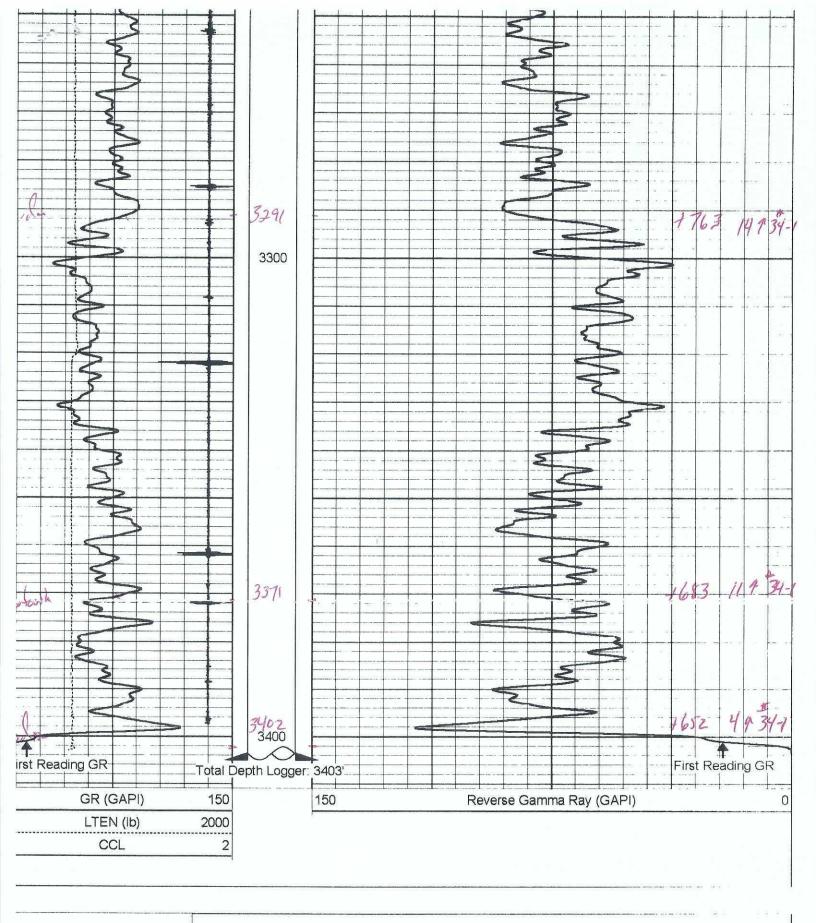
iarks:

THANK YOU FOR CHOOSING COMPETITION WIRELINE SERVICES.

YOUR CREW TODAY HAS BEEN: STARBUCK SEIFERT & AARON BROWN

MORTITIAN

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# Repeat Section

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# OPERATIONAL SUMMARY

and

# GEOLOGICAL WELL HISTORY

Altamont Oil and Gas Inc. Altamont/Jody Field No. 4-1A NENENE Section 4-T28N-R6W (330' FNL – 380'FEL) Glacier County, Montana API No. 25-073-21842

Wildcat

Patrick M. Montalban Petroleum Geologist P.O. Box 488 Cut Bank, Montana 59427

# Resume

Spud Date:

Completion Date:

Status:

Eleavtion:

Total Depth:

Casing:

Contractor:

Type Rig: Mud Pump: Air Compressor:

Air Program:

Mud Program:

Hole Size: Size Drill Pipe:

Size Drill Collars:

No. Drill Collars:

Sample Intervals:

Sample Quality: Cores:

Drill Stem Tests:

May 18, 2009

May 23, 2009

Madison Sun River Dolomite "Wildcat

Oil Well Discovery"

4070'GR. 4075'KB.

3442' Driller 3462' Driller (Completion) Ran 17 joints 7",17#/ft,ltd,8rd,ST&C,Rge 3

(729.17) set@726.67KB cemented with 160sx Class G cement, 3% Calcium Chloride, 3% Calcium

chloride, 1/2# flocelle.

Ran 85 joints 4 1/2",10.5#/ft,8rd,ST&C,Rge 3 (3442.91') set @3440.91' KB cemented with

60 sx Class G, 2% CaCO3 GaSco Drilling LLC Rig No.7

Atlas Copco RD20 (Tophead Drive) Gardner Denver FXK (6" x 14") Atlas Copco (1250mmcf 350psi)

Surface to 3442'

3442

8 3/4" (0-730') 6 1/4"(730' - 3442 ') 3 1/2" O.D. x 2 1/2" I.D. (13.30 #/ft.) 4 <sup>3</sup>/<sub>4</sub>"O.D. x 2 1/8" I.D.(353') Weight Pipe =

4 ½"O.D. x 2"I.D.(16.60#/ft.)(120')

13 = 354

30'(1950'- 2310')(2560' - 2980')

10'(1700'-1950')(2310'-2560')(2980'-3442')

Good None

None

# Air Drilling Summary

Drilled 8 3/4" hole with air (mist) from 37' to 730'. Did not show strong flow of water through the drlling of the surface hole. Drilled 6 1/4" hole with air from 730' to 3442'. No gas was encountered. Total depth 3442' by driller with air. Converted to mud drilling program at 3442'.

# Sample Distribution

None Required by the Montana Oil and Gas Conservation Commission, 2535 St. Johns Ave., Billings Montana in accordance with Rule No. 229

Logging Summary
No Logs were run.

# Mud Summary

Max Gel -17sx

Plat Pac UL – 8 - 5gallons

Bit Record

No.	Size	Make	Type	Interval	Footage	Hours	Jet Size	Serial No.
1	8 3/4"	STC	CH-14	0 - 730	730	18.00	open	225925
2	6 1/4"	HTC	STX-20	730-3442	2712	28.00	open	5123271
3	3 7/8"	Varel	DW531	3442-3462	20	1.0	reg	1016538

# Vertical Surveys

<u>Depth</u>	<u>Degrees</u>
251'	1/4*
730'	1/4*
1305'	1/2*
1970'	1/2*
2540'	1/2*
3272'	1/2*

# Sample Formation Tops

Cretaceous	Depth	<u>Datum</u>
Colorado		
Two Medicine		
Blackleaf	1786	+2289
Blackleaf Bentonite Marker	1825	+2250
Blackleaf Sandstone	1830	+2245
Base Fish Scales	Section 2	
1 <sup>st</sup> Bow Island	1884	+2191
2 <sup>nd</sup> Bow Island	2026	+2049
3 <sup>rd</sup> Bow Island	2134	+1941
4 <sup>th</sup> Bow Island "A"	2367	+1708
4 <sup>th</sup> Bow Island "B"	2413	+1662
Dakota	2539	+1536
Kootenai	2582	+1493
Sunburst	3079	+996
Jurassic		
Morrison	3135	+940
Swift	3208	+867
Rierdon(Ellis Shale)	3331	+744
Sawtooth	3416	+659
N. P P L L		
<u>Mississippian</u>		
Madison(Sun River Dolomite)		
Total Depth:	3542	+633

# Daily Activity Summary (Calendar Days)

May 18,2009 Moved in and Rigged up Gasco Drilling LLC Rig No. 7 Spud 8 3/4" hole at 11:00A.M. Drilled 8 3/4" surface hole from 0' to 37'. Drive 9 5/8" casing set @ 16.00' set @ 17'.

Repair upper radiator hose. Nipple up deflector head. Drillled 8 3/4" surface hole with air mist from 37' to 446'.

May 19,2009 Drilled 8 3/4" surface hole with air mist from 446 to 730'.

Total Depth 730' by Driller. Condition hole for surface casing.Ran 17 joints 7",17#/ft,Ltd,8rd,ST&C,(729.79)set @ 728.79'KB cemented with 160 sacks Class G cement + 3% Calcium Chloride,1/2#/sack focelle. Good returns to surface.

Plug down at 2:00 P.M. W.O.C. Nipple up BOP.

May 20,2009 Trip in hole with 6 1/4" bit. Clean and dry hole. Drilled cement plug

and dry hole.Ran survey. Dry hole. Drilled out @ 2:30A.M..

Drilled 6 1/4" hole with air from 730' to 2881'.

May 21,2009 Drilled 6 1/4" hole with air from 2881' to 3442'.

Total depth 3442' by driller.

Total depth by driller with air. Did not encounter any moisture.

Converted to drilling mud @ 7:00A.M.

Condition hole for 4 1/2" production casing. Short trip. Condition

hole for 4 ½" production easing. Trip out of hole for 4 ½"

Production casing. Rig up to run production casing.

May 22, 2009 Ran 85 joints 4 ½",9.5#/ft,API.,J55,8rd,ST&C,Rge 3

(3442.91') set @ 3440.91'. Lower viscosity to 40. Cemented Well with 60 sacks Class G cement with 2% calcium chloride.

Plug down @1:30A.M.. Set 4 1/2" casing in the

Slips.Report Ends.

May 23, 2009 T.D. Nipple up BOP. Pick up 2 3/8" tubing. Tagged plug at 3418'.

Mist up to drill out 4 ½" plug. Drilled 3 7/8" hole with air mist from 3442'to 3460'. Test well, no show of oil or water. Drilled 3 7/8" Hole with air mist from 3460' to 3462'. Shut in for 1 ½ hr. No show, no oil,no water,no odor. Note Driller Total Depth 3468'.

Last 5' run in with no rotation or weight. Rig down.

# Lithology

Sample descriptions begin at 1700', in the Cretaceous Colorado. Sample descriptions are not corrected for drill time lag. Formation tops were determined from electric logs. Samples were examined and described wet except for the samples in the Mississippian Madison Sun River Dolomite that were described dry.

# SAMPLES CAUGHT IN 10' INTERVAL:

- 1700 1710 Shale,dk grey,chunky,firm,dense,noncalcareous,earthy textured,gritty in parts.
- 1710 1720 same as above.
- 1720 1730 Shale, grey, chunky, firm, dense, noncalcareous, earthy textured to gritty textured, sandy in parts.
- 1730 1740 Shale,grey,chunky,platy,firm,dense,nncalcareous,earthy textured, micromicaceous. Bentonite,tan,soft,lumpy.
- 1740 1750 same as above. Bentonite, tan, white, soft, lumpy.
- 1750 1760 Shale, grey, chunky, platy, firm, dense, noncalcaroeus, earthy textured, micromicaeous.
- 1760 1770 same as above.
- 1770 1780 Shale, grey, chunky, firm to hard, dense, noncalcareous, earthy textured, microcmicaceous.

# 1786 - Sample Top - Blackleaf

1780 – 1790 Shale,dk greyish black,chunky,blocky,firm to hard,dense,very calcareous,

# many tan specks.

1790 - 1800 Shale as above.

1800 - 1810	Shale,dk grey,chunky,blocky,firm to hard,dense,very calcareous,
	earthy textured, many tan specks.

1810 - 1820 same as above.

# 1825 – Sample Top – Blackleaf Bentonite

1820 – 1830 Shale, dk grey, chunky firm, dense, calcareous, earthy textured.

# 1830 - Sample Top - Blackleaf Sandstone

- 1830 1840 Shale, grey, chunky, firm, dense, noncalcareous, earthy textured, Bentonite, white, soft, lumpy, micromicaceous.
- 1840 1850 Shale as above.
- 1850 1860 Shale, grey, chunky, firm, dense, noncalcareous, earthy to gritty textured. Siltstone, grey, blocky, hard, dense, noncalcareous, tight.
- 1860 1870 Sandstone, grey, very fine to fine grained, subrounded to subangular, Moderately sorted quartzose, many clear and grey grains,
- 1870 1880 Shale,dk grey,chunky,firm,dense,noncalcareous,earthy textured, many unconsolidated grains in sample pan. Siltstone,grey,blocky,hard, dense,noncalcaeous,tight.

# 1884 - Sample Top - 1st Bow Island

- 1880 1890 Many unconsolidated grains in sample pan.Sandstone,dk grey,very fine grained,rounded,well sorted quartzose.Bentonite,tan,soft, lumpy.
- 1890 1900 same as above.
- 1900 1910 Siltsone, grey, blocky, hard, dense, noncalcareous, tight

- Shale,grey,chunky,firm,dense,noncalcareous,earthy to gritty textured.Siltsone as above.Unconsolidated grains in sample pan.
- 1920 1930 Bentonite,tan,white,soft,waxy,lumpy,micromicaceous.Shale,dk grey Chunky,hard,dense,noncalcareous,earthy textured.
- 1930 1940 Shale, grey, chunky, firm, dense, noncalcareous, earthy textured.
- 1940 1950 Bentonite,tan,soft,lumpy.Many unconsolidated grains in sample pan.

# Begin 30' Samples

- 1950 1980 Sandstone, grey, very fine grained, rounded, well sorted quartzose, many clear and grey grains, trace glauconite grains.
- 1980 2010 Bentonite,tan,soft,lumpy.Shale,greenish grey,chunky,firm,dense, noncalcareous,gritty textured.Siltstone,greenish grey,blocky,hard,dense noncalcareous,tight.

# 2026 - Sample Top - 2<sup>nd</sup> Bow Island

- 2010 2040 Sandstone, grey, very fine to fine grained, rounded to subrounded, well sorted quartzose, many clear grains, few black chert grains, few glauconite grains.
- 2040 2070 Shale, choclate brown, chunky, firm to hard, dense, waxy textured, trace orange zeolites. Bentonite, tan, soft, lumpy
- 2070 2100 Shale,lt green,chunky,firm,dense,noncalcareous,waxy textured. Much Bentonite,tan,soft,lumpy.
- 2100 2130 Sandstone, greenish grey, very fine to medium grained, coarse grained in parts, subrounded to angular, poorly sorted quartzose, many clear grains, trace black chert grains, trace glauconite grains.

# 2134 - Sample Top - 3<sup>rd</sup> Bow Island

2130 – 2160 Sandstone, brownish white, very fine grained, rounded, well sorted quartzose, many clear and grey grains.

- 2160 2190 Shale, black, chunky, firm, dense, noncalcareous, waxy textured.
- 2190 2220 Bentonite,ten,soft,lumpy,micromicaeous, Shale,lt green,chunky, Soft,dense,noncalcareous,waxy textured.
- 2220 2250 Shale,green,grey,chunky,soft to firm,dense,noncalcareous,earthy to waxy many orange zeolites.Textured. Bentonite,tan,soft,lumpy.
- 2250 2280 Bentonite,tan,soft,lumpy. Sandstone,brown,very fine grained,rounded, well sorted quartzose.
- 2280 2310 Shale, grey, chunky, soft to firm, dense, noncalcareous, earthy to gritty Textured. Bentonite, tan, soft, lumpy.

#### Resume 10' Samples

- 2310 2320 Shale,dk grey,chunky,firm,dense,noncalcareous,earthy to gritty textured. Bentonite,tan,soft,lumpy.
- 2320 2330 Bentonite, tan, soft, lumpy. Shale as above.
- 2330 2340 Sandstone,dk grey,very fine grained,well sorted,rounded quartzose many unconsolidated grains in sample pan,many clear and grey grains, trace glauconite grains. Bentonite,tan soft,lumpy. Shale,dk grey,chunky firm,dense noncalcareous,gritty textured.
- 2340 2350 Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
- 2350 2360 same as above.

#### 2367 - Sample Top - 4<sup>th</sup> Bow Island "A" Sandstone

2360 – 2370 Sandstone, grey, very fine to fine, rounded to subrounded, moderately sorted quartzose, noncalcareous, many clear grains, few black chert grains, few glauconite grains.

2370 – 2380	Sandstone, grey, very fine grained, rounded, well sorted quartzose Many clear grains, many grey grain, few glauconite grains.
2380 - 2390	same as above.
2390 – 2400	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured bentonite,tan,soft,lumpy. Many unconsolidated grains in sample pan.
2400 – 2410	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured sandy in parts. Bentonite,tan,soft,lumpy.
2413 – Sampl	e Top – 4 <sup>th</sup> Bow Island "B" Sandstone
2410 – 2420	Sandstone, grey, very fine grained, rounded, well sorted quartzose, many clear and grey grains, few glauconite grains.
2420 – 2430	same as above becoming slightly coarser grained, very bentonitic.
2430 – 2440	Sandstone,dk grey,very fine grained,rounded to subrounded,well sorted quartzose,many grey grains,few glauconite grains,bentonitic.
2440 – 2450	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty to sandy textured. Many unconsolidated grains in sample pan.
2450 – 2460	Shale,grey,chunky,soft to firm,dense,noncalcareous,gritty textured unconsolidated grains in sample pan.
2460 – 2470	same as above. Bentonite,tan,soft,lumpy.
2470 – 2480	Shale,dk grey,grey,chunky,firm,dense,noncalcareous,earthy textured, Bentonitic.
2480 – 2490	Shale,grey,chunky,soft to firm,dense,noncalcareous,earthy textured, Micromicaceous.

2490 - 2500	same as above. Many unconsolidated grains in sample pan.							
2500 – 2510	Shale,grey,dk grey,chunky,firm,dense,noncalcareous,earthy to gritty textured. Bentonite,tan,soft,lumpy.							
2510 – 2520	Sandstone, grey, very fine grained, rounded, well sorted quartzose Many clear and grey grains, few glauconite grain, bentonitic.							
2520 – 2530	Many unconsolidated grains in sample pan. Shale,grey,chunky, firm,dense,noncalcareous,gritty textured. Sandstone as above.							
2539 – Sample	e Top - Dakota							
2530 – 2540	Shale,grey,chunky,firm,dense,noncalcareous,earthy textured, micromicaceous.Bentonite,tan,soft,lumpy.							
2540 – 2550	Sandstone, lt grey, very fine grained, rounded, well sorted quartzose many clear grains few grey grains.							
2550 – 2560	Sandstone, clear, very fine grained, rounded to subangular, well sorted Quartzose, many clear grains, few grey chert grains, bentonitic.							
Resume 30' S	<u>amples</u>							
2582 – Sampl	e Top - Kootenai							
2560 – 2590	Sandstone, brown, very fine to medium grained, rounded to subangular Moderately sorted quartzose, many unconsolidated							

grains.Bentonite,tan,soft.

gritty textured.

2590 - 2620 Shale, grey, chunky, firm, dense, noncal careous, earthy to

2620 – 2650	moderately sorted quartzose, many clear grains, many grey shale inclusions many black chert grains.
2650 – 2680	Sandstone, grayish white, very fine to fine grained, rounded to subangular, moderately sorted quartzose, many clear grains, many grey and black grains.
2680 – 2710	Shale, brick red, green, lt green, chunky, soft to firm, dense, noncalcareous, earthy to gritty textured.
2710 – 2740	Sandstone, green, lt green, very fine grained, rounded, well sorted quartzose many unconsolidated grains, many clear grains, orange shale as above. Shale green, chunky, firm, dense, noncalcareous, gritty textured.
2740 – 2770	Shale,grey,chunky,platy,firm,dense,noncalcareous,earthy textured. Bentonite,tan,soft,lumpy.
2770 – 2800	Sandstone, green, lt green, very fine to fine, rounded to subrounded, well sorted quartzose, many clear and frosted grains, many glauconite grains.
2800 – 2830	Shale, green, chunky, firm, dense, noncal careous, earthy textured, smooth. shale, grey, chunky, firm, dense, noncal careous, earthy textured.
2830 – 2860	Shale, brick red, maroon, green, grey, chunky, firm, dense, noncal careous, gritty textured. Bentonite, white, soft waxy.
2860 – 2890	Shale,multicolored,green,brick red,grey,reddish brown,maroon,chunky, soft to firm,dense,noncalcareous,earthy textured.
2890 – 2920	Sandstone, grey, very fine to fine grained, rounded to subangular, moderately Sorted quartzose, many clear grains, many grey grains, many amber grains, Bentonitic.

Bentonitic, tan, soft, lumpy. 2950 - 2980Shale, brick red, chunky, soft to firm, dense, noncalcareous, gritty textured. turns sample bag bick red. Begin 10' Samples Shale, brown, brick red, chunky, firm, dense, noncalcareous, earthy to gritty 2980 - 2990textured. 2990 - 3000Shale, green, chunky, soft to firm, dense, noncalcareous, gritty textured, sandy in parts. Bentonite,tan,soft,lumpy. 3000 - 3010Shale, grey, chunky, platy, soft to firm, dense, noncalcareous, gritty textured. Shale, multicolored, green, grey, brick red, brown, reddish brown, maroon, 3010 - 3020chunky, firm, dense, noncalcareous, earthy textured, motteled in parts. Sandstone, grey, very fine grained, rounded to subrounded, well 3020 - 3030sorted quartzose, many clear grains, many black shale inclusions, trace green grains, trace amber grains. 3030 - 3040Sandstone, grayish white, very fine grained, rounded, well sorted quartzose, many clear grains, trace black and grey shale inclusions, trace amber grains. 3040 - 3050Shale, multicolored, brick red, green, grey, brown, maroon, chunky, soft to firm, dense, motteled, noncalcareous, earthy textured, motteled. 3050 - 3060Shale, brick red, grey, green, chunky, firm, dense, noncal careous, earthy textured, smooth.

Shale, lt. grey, chunky, blocky, firm, dense, noncalcareous, waxy

Sandstone, dk brown, very fine grained, rounded, well sorted quartzose,

2920 - 2950

3060 - 3070

ttextured.

#### 3079 - Sample Top - Sunburst

- 3070 3080 Shale,mustard yellow,grey,chunky,firm,dense,noncalcareous, Earthy to gritty textured. Many unconsolidated grains in sample pan,very fine grained.
- 3080 3090 Sandstone, white, clear, very fine to fine grained, rounded to subrounded, well sorted quartzose, many clear grains, trace amber grains, few grey chert grains.
- 3090 3100 Sandstone, white, clear, very fine to fine grained, rounded to subrouned, well sorted quartzose, many clear grains, few grey chert grains, trace amber grains, bentonitic.
- 3100 3110 Shale,green,lt green,chunky,firm,dense,noncalcareous,earthy textured Smooth. Mostly Bentonte,tan,cream,soft,lumpy.
- 3110 3120 Shale,dk grey,chunky,blocky,firm,dense,nocalcareous,waxy Textured. Bentonite,white,soft,lumpy.
- 3120 3130 Shale,lt.greyish,grey,chunky,firm,dense,noncalcareous,waxy textured. much Bentonite,white,soft,lumpy. Many coarse grained,angular orange grains in sample pan. Many unconsolidated grains in sample pan.

#### 3135 - Sample Top - Morrison

- 3130 3140 Sandstone, white, tan, clear, very fine to fine grained, rounded to subrounded well to moderately sorted quartzose, many clear and frosty grains. few grey grains.
- 3140 3150 Shale, multicolored, brick red, green, lt green, maroon, grey, "baby poop yellow", chunky, soft to firm, dense, noncalcareous, earthy textured.
- 3150 3160 Shale, brick red, reddish brown, trace yellow above, chunky, soft to firm, dense, noncalcareous, earthy textured, Bentoite, white, soft, lumpy.

3160 - 3170	Shale,maroon,greenish grey,grey,chunky,soft to firm,dense, Noncalcareous,earthy to waxy textured.Bentonite,white,soft.
3170 – 3180	Shale,baby poop yellow,chunky,soft,noncalcareous,earthy textured. Shale,grey,lt grey,chunky,soft firm,dense,noncalcareous, earthy textured.
3180 – 3190	Siltstone, brown, chunky, blocky, firm to hard, dense, very calcareous, tight, no shows. Shale, grey, chunky, soft to firm, dense, calcareous, earthy to gritty textured.
3190 – 3200	Shale,dk grey,chunky,soft to firm,dense,noncalcareous,earthy to gritty textured,sandy in parts. Limestone,tan,buff,sublithoghraphic, dense,tight,very calcareous.
3208 – E Log	Top - Swift
3200 - 3210	Sandstone, brown, very fine to fine grained, rounded to subrounded, well sorted, quartzose, many clear and dark grains.
3210 – 3220	Shale,dk grey,chunky,soft to firm,dense,noncalcareous,gritty Textured. Many very fine grains in sample pan.
3220 – 3230	Sandstone, brown, very fine to fine grained, rounded to subangular, well to Moderately sorted quartzose, many clear grains and few grey grains.
3230 – 3240	Sandstone as above. Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.
3240 – 3250	Sandstone, brown, very fine to fine grained, rounded, well sorted quartzose many clear grains. Shale dk grey, chunky, soft to firm, dense, noncalcareous gritty textured

3250 - 3260 same as above.

3380 - 3390 Marlstone as above.

3260 – 3270 Sandstone, brown, very fine grained, rounded, well sorted quartzose many clear and grey grains.

3270 - 3280	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.					
3280 – 3290	Shale,grey,chunky,platy,firm,dense,noncalcareous,earthy to gritty textured.					
3290 – 3300	Shale, grey, chunky, platy, firm, dense, noncal careous, earthy textured.					
3300 – 3310	Shale,grey,lt grey,chunky,platy,firm,dense,noncalcareous,earthy Textured.					
3310 – 3320	Shale,dk grey,chunky,firm,dense,noncalcareous,gritty textured.					
3320 – 3330	Shale as above. Shale,tan,light brown,blocky,firm,dense,very calcareous, Slightly gritty textured.					
3331 – Sampl	e Top - Rierdon(Ellis Formation)					
3330 – 3340	Marlstone,dove grey,chunky,blocky,firm to hard,dense,very calcareous earthy textured,micropyritic. Marlstone,tan,soft,lumpy,very calcareous. Marlstone,white,soft,lumpy,very calcareous.					
3340 - 3350	same as above.					
3350 – 3360	Marlstone,dove grey,chunky,soft to firm,dense,very calcareous,earthy textured,micropyritic.					
3360 - 3370	same as above.					
3370 – 3380	Marlstone,dove grey,chunky,firm to hard,dense,very calcareous, earthy textured,micropyritic. Marlstone,tan,soft,lumpy.					

3390 - 3400	Marlstone, dove grey, greenish grey, chunky, firm to hard, dense, very calcareous, micropyritic.earthy textured. Marlstone, white, soft, lumpy,
	very calcareous.

3400 – 3410 Marlstone,dove grey,greenish grey,chunky,firm to hard,dense,very calcareous,earthy textured,micropyritic.

#### 3416 - Sample Top - Sawtooth

- 3410 3420 Siltstone,lt greenish grey,chunky,firm to hard,dense,very calcareous, gritty to sandy textured,micropyitic,sandy in parts.
- 3420 3430 Siltstone,lt grey,chunky,blocky,firm to hard,dense,very calcareous, micropyritic. Much Pyrite.
- 3430 3440 Siltstone,lt grey,grey,chunky,blocky,firm to hard,dense,very calcareous sandy textured,micropyritic. Much pyrite.
- 3440 3442 Sandstone,tan,cream,very fine grained,rounded,well sorted quartzose,calcareous,many unconsolidated grains in sample pan,no shows.

#### 3442 - Total Depth by Driller

## Form No. 4 R10/09 LOCATE WELL CORRECTLY

#### (SUBMIT IN TRIPLICATE) TO

ARM 36.22.302 ARM 36.22.307 ARM 36.22.1011 ARM 36.22.1013 ARM 36.22.1414

### MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS MONTANA 59102

$\perp$			BIL	LINGS, M	ONTANA	59102				
			CC	MPLET	ION REF	PORT			/	
							API	# 25	073 /	21872
Company Al	LTAMONT	OIL & G	AS. INC	Le	ase FIEL	.D		2	ell No.	4-1A
Address PO			,			ld or Area			_	
	T BANK, N	/IT 5942	7							
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o PON	UDERA		(N/S)		(1	E/W)	on 4.0	—	4	,075' KB
County PON							(S	lurface)		(KB)
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i ne ii	ntormation gi	ven nerewi	tn is a com	piete and t		ord or tile		M/	or prepar	agion.
					Signed	PRESI	DENT &	CEO	Date	6/30/2010
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			Ca	sing and	Tubing R	ecord				
Well Bore	Туре	Strii Size	ng Weight	Grade	Length (Feet)	From (MD, Feet)	To (MD, Feet)	Cement (Sacks)	Cement T (MD, Fee	sep <sup>St</sup>   Distance times to
8-3/4"	Surface	7"	17#/ft	Ltd	17 jts	0	726.67 ' KB	160	726.67'	КВ
6-1/4"	Production	4-1/2"	10.5#/ft	API	85 jts	726.67' KB	3440.91'	60	3440.91'	KB
	-	-								
					Open-hole	Intervals			Open or Iso	lated
Well Bore	Open Hole/F	Perf'd Zone Bottom	Holes per foot		Size and Type				ethod of iso	
4-1/2"	3,444'	3468'	Driller	Open H	Open Hole - 3-7/8"			en		
and the second second		3460'	Logger	-						
		Λ.	cidized, Sh	ot Eraco	d Saugez	ed or Cer	nented	200		
Well Bore	Inter				1	and Type of		0.00000480000	Rate	Max. Pressur (PSI)
	Top 3444'	Bottom 3468'	Driller	Treatment Type		% HCI		(BBLS/Min) 3.0/min		
	0,111	3460'	Logger							
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	_	20.76								houre
ID SI	harrele o	of oil	MC	F of das	and	ba	arrels of wa	ater per		hours.

Initial 10	)-day av	verage pro	oduction	Wai	ting to cor	mplete	3rd	poros	ity		/day	(if take	en)		
Pressures (if measured): Tubing				A Company of the second	_psi flov	wing				d tra settinane	ps				
					psi flowing:										
Formation Volume Factor														_%	
*			3		ottom Hole				-						
	vaccor T		Kick-off	The state of the s	otal Depth	Locatio		ation, T-F	R-S		From N/	S Line	From	i E/W	Line
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#### Sample Formation Tops

Cretaceous	<u>Depth</u>	<u>Datum</u>
Colorado		
Two Medicine		
Blackleaf	1786	+2289
Blackleaf Bentonite Marker	1825	+2250
Blackleaf Sandstone	1830	+2245
Base Fish Scales		-
1 <sup>st</sup> Bow Island	1884	+2191
2 <sup>nd</sup> Bow Island	2026	+2049
3 <sup>rd</sup> Bow Island	2134	+1941
4th Bow Island "A"	2367	+1708
4th Bow Island "B"	2413	+1662
Dakota	2539	+1536
Kootenai	2582	+1493
Sunburst	3079	+996
Jurassic		
Morrison	3135	+940
Swift	3208	+867
Rierdon(Ellis Shale)	3331	+744
Sawtooth	3416	+659
Suvitoodi		
Mississippian		
Madison(Sun River Dolomite)		7-
Total Depth:	3542	+633
-	3542	+613/
	/14-	1

#### **EXHIBIT C**

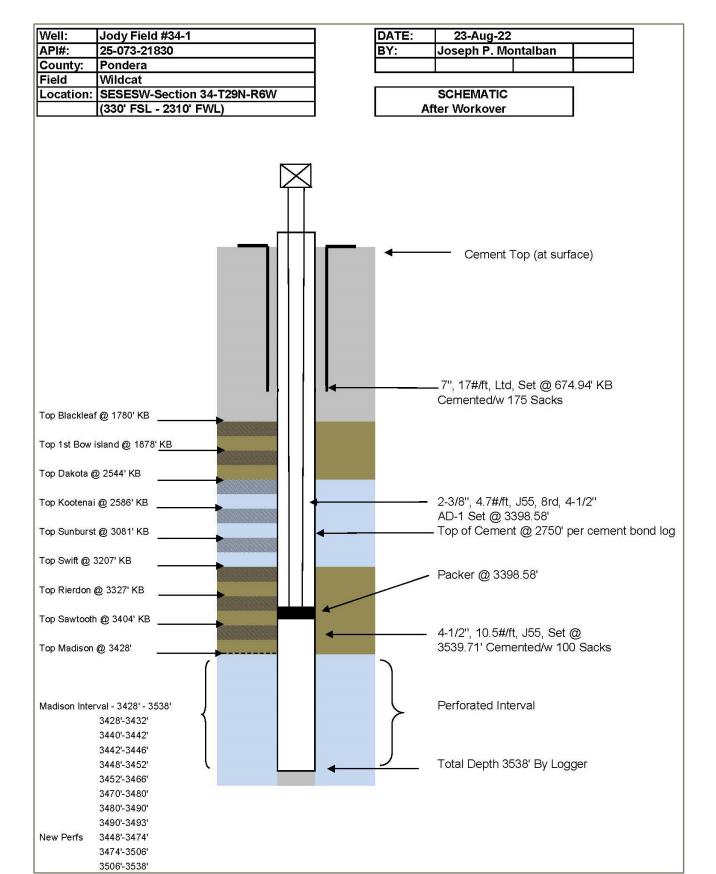
WatchDog® Monitoring System Specifications





#### WatchDog 4 Specifications

Requirements &	Ideally the unit should be faced for optimum solar exposure (i.e. south in the northern hemisphere) Requires at least 1 bar of cell service. Typically works were text works
Environment	-40°C to 65°C (-40F to 150F), NEMA4 All exposures except for immersion
Certifications	Class I Div. 2, Groups C & D, Exia FCC PART 15 IC/ICES-003 Analog Input 1-3: Class 1 Div 1 Digital Input 1-2: Class 1 Div 2 Pulse Counter: Class 1 Div 1
Operation	Sample frequency: minutely, up to 24 images per day, hourly data upload.  Minute by Minute data available (transmits hourly)  Up to 30 days without solar charge
Options	Up to 2 High dynamic range cameras (640x480 images) Up to 3 external RTDs, (1-5Vdc), and/or (4-20mA) Sensors Up to 6 external RTDs, (1-5Vdc), and/or (4-20mA) Sensors, WatchDog4 Add-On-Board required (see Add-On-Board Documentation)
Ordering	<ul> <li>Systems include cables, end device(s), and mounting.</li> <li>Installation available (Call for quote)</li> <li>Specify quantity of cameras: (0-2) c/w 3m cable</li> <li>Specify qty of RTDs, Vibration, Electric Current and or Pressure Sensors: (0-6) c/w 3m cable</li> <li>Specify range of Pressure sensors: (15, 50, 500, 1500, 5000 psi).</li> <li>Typical lead time &gt; 4 weeks.</li> </ul>
Mounting	A Frame, stand, and wall mount available
Shipping	FOB Calgary, AB Dimensions (LxWxH): Weight: 5.4 kg (incl. battery pack)
Warranty	90 days, parts and labour
Consumables	1 field replaceable 12Ahr 6Vdc SLA battery included.
Pricing (CAD)	\$1500 -\$3,500 email for quote info@afti.ca  WD4 Spec. Sheet © Revised September 23, 2019





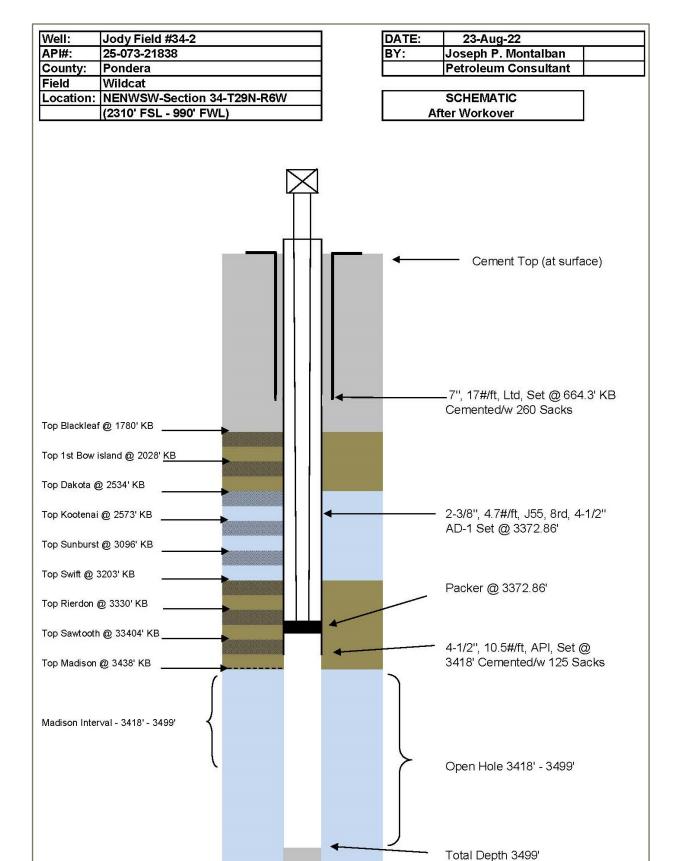
#### WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-1

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS

#### Attachment C Figure 01

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY







#### WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-2

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS

#### Attachment C Figure 02

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY



Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

Attachment D
Injection Operation and
Monitoring Program
(40 CFR § 144.54)



#### **CONTENTS**

1.	Injection Process Flow, Facilities and Monitoring	2
2.	Injection Well Maintenance	2
3.	Loss of Mechanical Integrity During Operation	2
4.	Injectate Characteristics	3

#### **FIGURES**

Figure 1. Injection Site Layout

Figure 2. Injection Operations Jody Field Wells 34-1 and 34-2

#### **EXHIBITS**

Exhibit A. WatchDog® System Specifications

### 1. INJECTION PROCESS FLOW, FACILITIES AND MONITORING

Montalban Oil & Gas Operations, Inc. (Montalban) will receive industrial wastewater from Montana Renewables, a renewable fuels refinery located in Great Falls, Montana. The Class V injection wells are located on private property. The wastewater will be delivered by truck via secure access from Range View Road and offloaded to the frac tanks located at the injection site. (**Figure 1**). A transfer pump will pump the water from the frac tanks to the 300 bbl water tank located next to the injection building. The water will be sent from the injection pump through the injection lines to wells Jody Field 34-1 and Jody Field 34-2 (**Figure 2**). A pressure actuated shutoff device (Murphy switch) is located in the injection building and is set to shut-off flow from the injection pump when pressures reach within 200 to 300 psi of the Maximum Allowable Injection Pressure (MAIP) established for the wells.

Each injection well is housed in a  $4' \times 6'$  building that is insulated and heated for winter operations. The wells will be equipped with the WatchDog® virtual well-site monitoring system, which will continuously monitor injection volumes and flow rates, pressure on the tubing, and pressure on the backside of the packer and tubing casing annulus. Data will be monitored 24/7 on scheduled transmissions, however, should a threshold for pressure be crossed, the WatchDog® system will transmit immediately with a device alarm. The pressure sensors are capable of monitoring pressures ranging from normal operating pressures up to the MAIP. Specifications for the WatchDog® system are provided in Exhibit A.

The tubing casing annulus will be filled with water treated with a corrosion inhibitor, and the valve will remain closed during normal operating conditions so that the pressure will be maintained at zero (0) psi. A "tap" will be placed at a conveniently accessible location on the discharge line of the pump that leads to the injection wells for collection of representative samples of the injected fluid.

#### 2. INJECTION WELL MAINTENANCE

The well parameters will be monitored daily to identify any trends that could indicate a loss of injectivity. In the event a well workover is required to maintain well performance, EPA will be notified and a Mechanical Integrity Test (MIT) will be conducted to demonstrate integrity of the well prior to resuming injection.

#### 3. LOSS OF MECHANICAL INTEGRITY DURING OPERATION

Mechanical Integrity will be continuously monitored using the WatchDog® well-site remote monitoring system which will alert Montalban immediately upon well failure. In the event of a loss of mechanical integrity, the well will be promptly shut-in, EPA will be notified, and repairs will be conducted to achieve and demonstrate mechanical integrity prior to resuming injection.

#### 4. INJECTATE CHARACTERISTICS

The wastewater from Montana Renewables will be generated from the pretreatment of renewable feedstocks. The renewable feedstocks may include, but are not limited to, vegetable oils (such as soybean oil and canola oil), animal fats (such as beef tallow, choice white grease, and poultry fat) distiller's corn oil, and used cooking oil.

The pretreatment process technology is developed and licensed by Applied Research Associates, Inc. (ARA). The technology involves a water-based (hydrothermal) cleanup process to pretreat feedstocks and feedstock blends prior to processing into renewable fuels. The pretreatment removes impurities from the renewable oils to extend the life of the catalysts. In this pretreatment process, water and a weak acid are mixed with the feedstock at high temperatures and pressure. After a predetermined contact time, the mixture is cooled and separated in an electrostatic separator to produce a renewable oil suitable for processing into renewable fuels, and a water phase. Phosphorus, nitrogen, salts and other impurities are removed with the water phase. This water phase comprises the wastewater requested for approval for injection.

The ARA pre-treatment system is currently under construction. Therefore, final water quality data for the various blends of feedstock are not available. However, based on bench scale analyses and projections from ARA, the following range of raw water quality is approximated:

- nH: 3
- TDS: 5,000 mg/L 8,000 mg/L
- Conductivity: 2,809 μS/cm 4,500 μS/cm

Prior to injection, the pH will be adjusted to be compatible with the injection well design based on geochemical modeling of water/well, water/rock and water/water interactions. Adjustment of the pH will result in an increase in TDS. Initial bench scale testing indicates this TDS increase to be in the 5-10% range and will depend on the buffering capacity of the wastewater during operation.

The wastewater will be injected into the Mississippian Madison Aquifer, which is determined to be an Underground Source of Drinking Water (USDW), with a measured TDS concentration within the UIC permit area of 5,440 mg/L. An aquifer exemption has been requested (UIC Permit Application, Attachment H).

At startup, the average volume of wastewater to be injected into each well is approximately 800 to 900 bbls/day. These volumes are consistent with the operation of the Class II wells, which have received up to an average of 850 bbls/day. The average and maximum injection rates are 1,300 and 2,000 bbls/day respectively. The maximum injection pressure is 1,025 pounds with an average injection pressure of 600 pounds. The pressures are authorized by the Montana Board of Oil & Gas Conservation within the current Class II UIC permits.

Montana Renewables plans to increase the wastewater injection volume over the life of the facility up to a potential maximum of 3,600 bbls/day. Future Class V UIC wells are proposed in the Area Wide UIC Permit Application to accommodate this expansion, as described in Attachment A of the Area Wide UIC Permit Application.

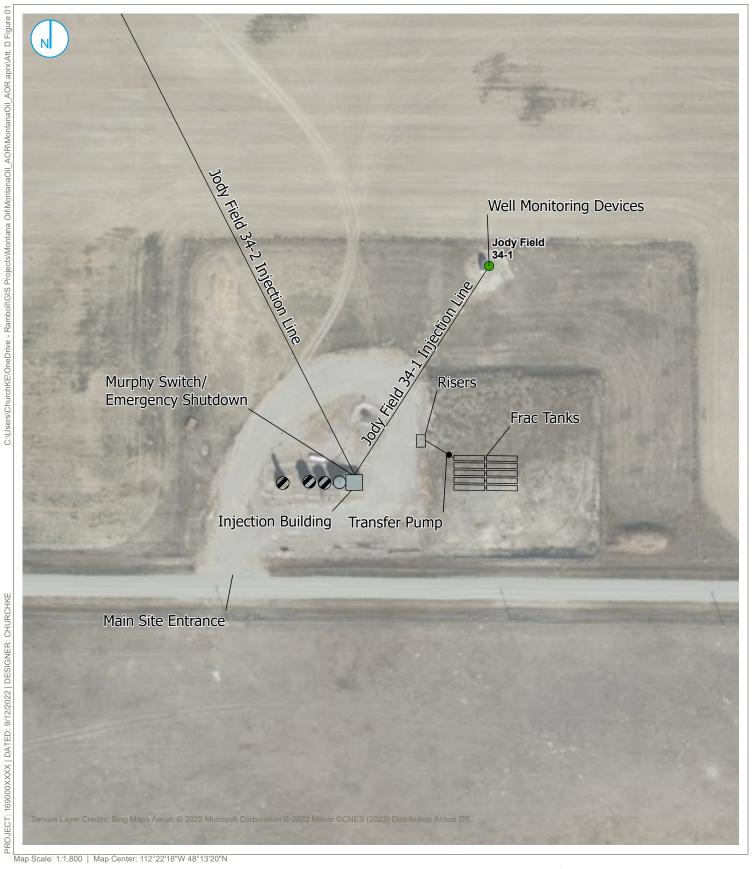
Attachment D Injection Operation and Monitoring Program (40 CFR § 144.54)

#### **Privileged and Confidential**

#### **FIGURES**

Figure 1. Injection Site Layout

Figure 2. Injection Operations and Monitoring Program



## KEY MAP (not to scale)

#### Active Injection

Out of Service Equipment

Polygon Notes

#### **INJECTION SITE LAYOUT**

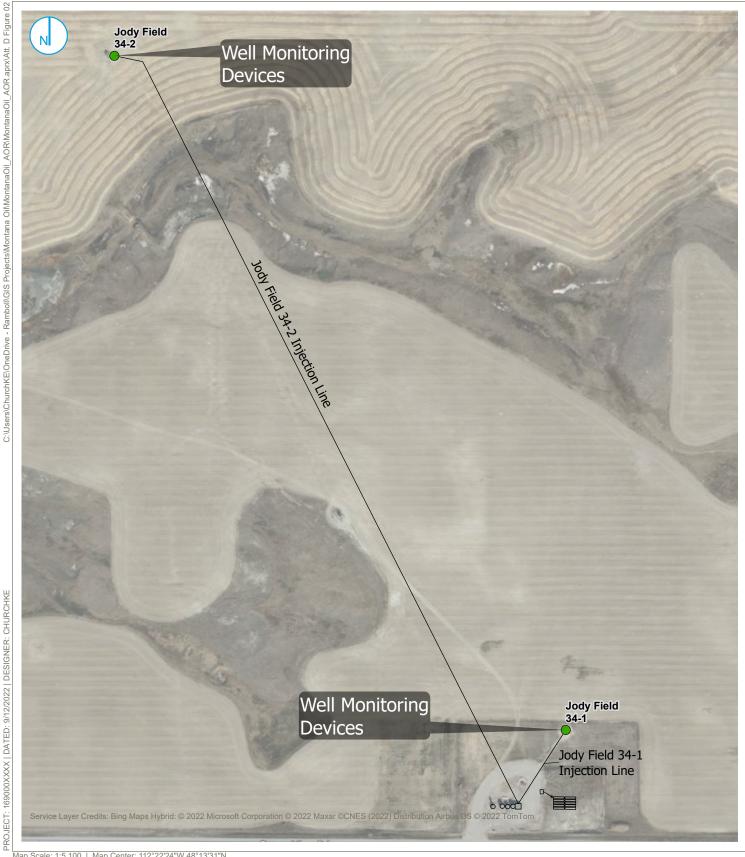
MONTALBAN OIL AND GAS
OPERATIONS INC - AREA WIDE UIC
APPLICATION
JODY FIELD WELLS

### Attachment D Figure - 01

RAMBOLL US CONSULTING, INC. A RAMBOLL COMPANY



0 75 150 L L Feet



Map Scale: 1:5,100 | Map Center: 112°22'24"W 48°13'31"N

#### Active Injection

#### **INJECTION OPERATIONS JODY FIELD WELLS 34-1 AND 34-2**

**MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE UIC** APPLICATION **JODY FIELD WELLS** 

#### **Attachment D** Figure - 02

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY





KEY MAP (not to scale)

212.5

Ramboll - Montalban Oil & Gas Operations,	Inc.
Area-Wide Class V UIC Application	

Attachment D Injection Operation and Monitoring Program (40 CFR § 144.54)

**Privileged and Confidential** 

#### **EXHIBITS**

Exhibit A. WatchDog® System Specifications





## WatchDog 4 Specifications

Requirements &	Ideally the unit should be faced for optimum solar exposure (i.e. south in the northern hemisphere) Requires at least 1 bar of cell service. Typically works were text works
Environment	-40°C to 65°C (-40F to 150F), NEMA4 All exposures except for immersion
Certifications	Class I Div. 2, Groups C & D, Exia FCC PART 15 IC/ICES-003 Analog Input 1-3: Class 1 Div 1 Digital Input 1-2: Class 1 Div 2 Pulse Counter: Class 1 Div 1
Operation	Sample frequency: minutely, up to 24 images per day, hourly data upload. Minute by Minute data available (transmits hourly) Up to 30 days without solar charge
Options	Up to 2 High dynamic range cameras (640x480 images) Up to 3 external RTDs, (1-5Vdc), and/or (4-20mA) Sensors Up to 6 external RTDs, (1-5Vdc), and/or (4-20mA) Sensors, WatchDog4 Add-On-Board required (see Add-On-Board Documentation)
Ordering	<ul> <li>Systems include cables, end device(s), and mounting.</li> <li>Installation available (Call for quote)</li> <li>Specify quantity of cameras: (0-2) c/w 3m cable</li> <li>Specify qty of RTDs, Vibration, Electric Current and or Pressure Sensors: (0-6) c/w 3m cable</li> <li>Specify range of Pressure sensors: (15, 50, 500, 1500, 5000 psi).</li> <li>Typical lead time &gt; 4 weeks.</li> </ul>
Mounting	A Frame, stand, and wall mount available
Shipping	FOB Calgary, AB Dimensions (LxWxH): Weight: 5.4 kg (incl. battery pack)
Warranty	90 days, parts and labour
Consumables	1 field replaceable 12Ahr 6Vdc SLA battery included.
Pricing (CAD)	
	WD4 Spec. Sheet © Revised September 23, 2019

Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

Attachment E
Plugging and Abandonment
Plan
(40 CFR §§ 144.31 & 144.51)

#### **CONTENTS**

1. Plugging and Abandonment Plans

2

#### **EXHIBITS**

Exhibit A. Plugging and Abandonment Plans

#### 1. PLUGGING AND ABANDONMENT PLANS

Updated plugging and abandonment plans have been prepared for Wells Jody Field 34-1 and 34-2, based on recent workovers and are included in Exhibit A. The plans are required by the Montana Board of Oil and Gas Conservation and have been approved for the existing Class II UIC wells.

Ramboll - Montalban Oil & Gas Operations, Inc. Area-Wide Class V UIC Application Attachment E Plugging and Abandonment Plan (40 CFR §§ 144.31 & 144.51)

#### **Privileged and Confidential**

#### **EXHIBIT A**

Plugging and Abandonment Plans

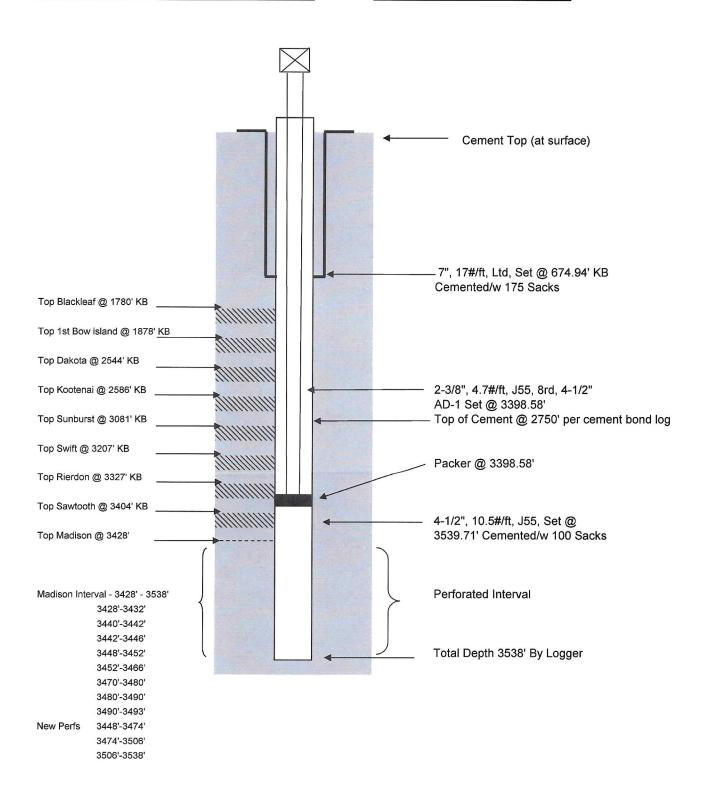
MT BOGC Approved Montalban Oil & Gas Operations, Inc. Operator: **Wellbore Schematic** \_ease: Jody Field Well No. 25-073-21830 Type: API No. Injection Status: Active KE ### Location: **S34 29N 6W, SESESW** (330'FSL & 2310'FWL) MT Field: Wildcat Pondera State: County: Spud Date: TD: 4/30/2008 3,543 KB 4071' PBTD: GL Comp Date: 5/6/2008 130sx 7" set w/175sx WELLBORE CONSTRUCTION Weight/Grade Depth Cement Size G cmt cmt back to sfc Open Hole 8 3/4" 675 Surface 17lb / LTD 675' 175 '@674.94'KB Open Hole 685 Intermediate Open Hole 6 1/4" 3543 100 Production 4.5" 10.5lb / J-55 3540' Liner DV Tool Formation Tops Blackleaf 1780' 1st Bow Island 1878 Dakota 2544' 2586' Drilling Mud Kootenai 3081 Sunburst 9lb Gelled Swift 3207 Rierdon 3327' Water 3404 Sawtooth Madison 3428' Perforations Required - P&A Depth 1 4spf 3 1/8" HSC 19gm or csg rip 684-685 12sx G cmt (2650-2800) Mechanical Plugs Required - P&A Depth TOC 2750' per CBL 3,380' 9lb Gelled Water Cement Required to P&A 3252 Sacks Plug #1 Sqz into perfs(3428-3538) 35 Balance on CICR (3252-3380) Set CICR@3380 Plug #2 10 Perfs 3428-3432 3440-3442 3442-3446 Plug #3 (2650 - 2800)12 3448-3452 3452-3466 3470-3480 Plug #4 (0-685) in 4.5" & 4.5x7"annulus 130 35 sx 3480-3490 3490-3493 3448-3474 Plug #5 G cmt 3474-3506 Plug #6 4.5"@3539.71'KB Total Sacks 187 New Perfs 3506-3538 TD 3543' Generalized Plugging Procedure Remove wellhouse & prepare location for service rig and P&A support equipment. MIRU Service rig, set anchors. Dig working pits, lay out tubing and AD1 packer. On workstring run 4.5" casing scraper to 3400'KB, lay out scraper and RIH with a CICR and set it at 3380'KB. Establish injection rate thru retainer and squeeze away 35sx G cement + additives into the Madison perfs. Sting out and balance 10sx G cement on top of CICR. Pull up out of cement and fill hole with 9lb gelled water. Set 12 sx G cement balanced plug at 2650-2800 across TOC behind pipe. Lay out setting tool. Perforate or run mechanical csg ripper and perf or rip 4.5" csg from 684-685'. Lay out perf gun/ripping tools. Install 4.5x2" swedge on csg and break circ w/water down 4.5 & up 7", then bullhead 130sx G cement until get good cement returns to surface in and out both strings of casing. Dig down and cut/cap casings 4ft below surface and weld on a steel ID plate. Cut off injection line riser 4' below sfc, purge it of fluids and then cap it. Restore location back to natural grade and then reseed disturbed areas back to native grasses as per sfc owner. Cleanup any debris and solid waste for removal and proper disposal off site. Surface Owner Jody Field 5353 Range View Rd Valier, MT 59486-5424 DATE: 10/3/2022 PREPARED BY: G. Klotz

· . . 3

Well:	Jody Field #34-1
API#:	25-073-21830
County:	Pondera
Field	Wildcat
Location:	SESESW-Section 34-T29N-R6W
	(330' FSL - 2310' FWL)

DATE:	23-Aug-22	
BY:	Joseph P. Montalban	

SCHEMATIC After Workover

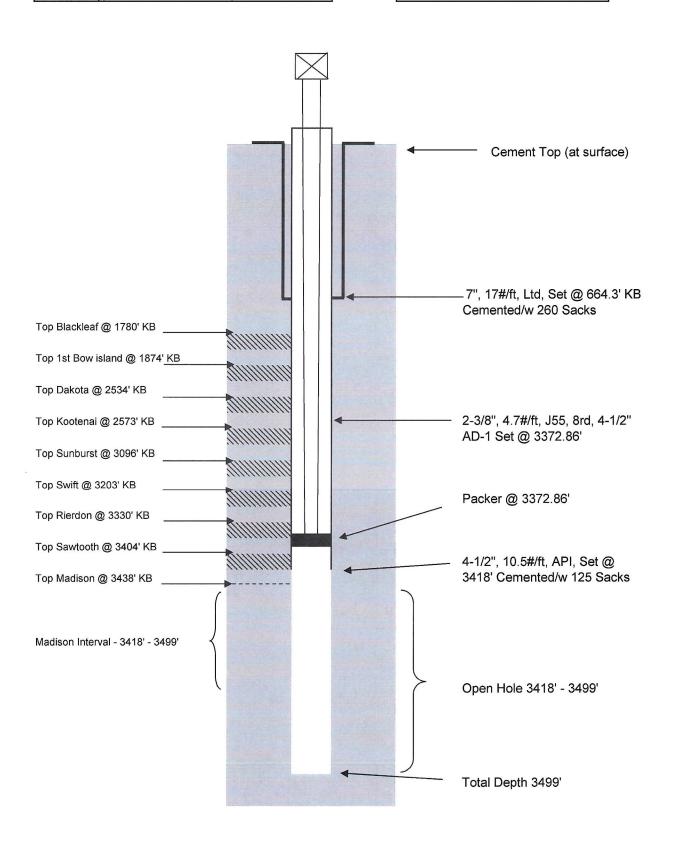


Montalban Oil & Gas Operations, Inc. Operator: MT BOGC Approved 34-2 Well No. Jody Field Lease: Wellbore Schematic Active Status: 25-073-21838 Type: Injection API No. (2310'FSL & 990'FWL) KB 5' S34 29N 6W, NWSW Location: Wildcat Field: MT State: Toole 8/7/2008 County: Spud Date: 4038 3499'(deepened) KB TD: 8/18/2008 Comp Date: 4033' GL PBTD 130sx WELLBORE CONSTRUCTION Cement Depth G cmt Weight/Grade Size 668 Open Hole 8 3/4" 260 664' 17lb / LTD Surface Open Hole 7"@664 Intermediate 675 3419 6 1/4" Open Hole 125 3418 4.5" 10.5lb / API Production Liner Formation Tops DV Tool 1780 Blackleaf 1874' 1st Bow Island 2534 Dakota 2573 Kootenai 3096 Sunburst 3203' 9h Gelled Swift 3330 Water Rierdon Drilling Mud 3404 Sawtooth 3438' Madison Depth Perforations Required to P&A 674-675 1 4spf 3 1/8"HSC 19gm or csg rip 1935 Depth 12sx G cmt Mechanical Plug Required to P&A Cal TOC @ 2017' 3,390' CICR 2090 Sacks 9lb Gelled Cement Required to P&A 20 Water Sqz below CICR (3390-3499') Plug #1 10 Balance on CICR (3262-3390') Plug #2 (1935-2090') 12 Plug #3 130 3262' (0-675') in 4.5" & 4.5x7"annulus Plug #4 Plug #5 10sx G cmt Plug #6 Set CICR@3390'KB Total Sacks 172 4.5"@3418' w/125s> Madison fm 20sx G cmt Generalized Plugging Procedure 3.75" OH(3418-3499') Remove wellhouse & prepare location for service rig and P&A support equipment. MIRU Service rig, set anchors. Dig working pits, lay out 2 3/8" tubing and AD1 pkr Run 4.5" csg scraper in on workstring to 3400'KB, clean out if necessary. Lay out csg scraper. RIH with CICR on workstring and set it at 3390'KB, establish injection rate with water thru retainer and then squeeze off open hole Madison section with 20sx G cement + additives. Sting out of retainer and balance 10sx G cement on top of CICR from (3262-3390'). Pull up out of cement and circ hole with 9lb gelled water then balance 12sx G cmt from (1935-2090') across estimated TOC behind the 4.5" csg. Lay out the setting tool. Perf or csg rip the 4.5" from 674-675', lay out perf gun or ripping tool. Dig out 7" csg head, swedge up to the 4.5" csg and pump water down until get returns out 7" then bullhead squeeze the 4.5" and 4.5 x7" annulus with 130sx G cement until get good returns out 7" at surface. Dig down and cut/cap casings 4ft below sfc with steel ID plate welded on top. Cut off the injection line riser off 4ft down and purge it, then cap it. Backfill location back to natural contour and clean up any debris and solid waste for proper disposal off site. No reseeding will be necessary since site is on cultivated farmland and it will be farmed over in the future. Surface Owner Jody Field 5353 Range View Rd Valier, MT 59486-5424 10/3/2022 DATE: PREPARED BY: G.Klotz

Well:	Jody Field #34-2
API#:	25-073-21838
County:	Pondera
Field	Wildcat
Location:	NENWSW-Section 34-T29N-R6W
	(2310' FSL - 990' FWL)

DATE:	23-Aug-22	
BY:	Joseph P. Montalban	
	Petroleum Consultant	

SCHEMATIC	
After Workover	



Prepared by

Ramboll US Consulting Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

Attachment F Financial Information (40 CFR § 144.52)



#### **CONTENTS**

1.	Plugging and Abandonment Cost Estimates	2
2.	Financial Assurance Mechanism	2

#### **EXHIBITS**

Exhibit A. Plugging and Abandonment Cost Estimates Exhibit B. Standby Trust Agreement and Letter of Credit

#### 1. PLUGGING AND ABANDONMENT COST ESTIMATES

Montalban obtained two cost estimates for plugging and abandonment of Jody Field Wells 34-1 and 34-2, based on their current design (Exhibit A). Liquid Gold Well Service Inc. provided an estimate for both wells of \$46,357. A second cost estimate was provided by Enneberg Excavation LLC of \$23,950 for both wells. Financial assurance was established based on the higher cost estimate.

#### 2. FINANCIAL ASSURANCE MECHANISM

A Standby Trust Agreement and Letter of Credit in the amount of \$46,357 was executed on October 10, 2022 between Montalban Oil & Gas Operations, Inc. and Freedom Bank (Exhibit B). The fund is explicitly established for plugging and abandonment of injection wells Jody Field 34-1 and Jody Field 34-2. The Letter of Credit is effective as of October 10, 2022 and expires on October 10, 2023 with automatic annual renewal on each successive expiration date, subject to the terms provided in Exhibit B.

Based on the location of the wells (on private, rural agricultural land), no land reclamation costs are anticipated.

Ramboll - Montalban Oil & Gas Operations, Inc. Area-Wide Class V UIC Application Attachment F Financial Assurance (40 CFR § 144.52)

# **Privileged and Confidential**

# **EXHIBIT A**

Plugging and Abandonment Cost Estimates

Company: MOGO INC. Well: P&A Jody Field 34-1 Date: 10/06/22

MIRU service rig and cementing equip. release packer and TOH. Round trip casing scraper to 3400'. TIH with 4.5" CICR set at 3380'. Establish rate and squeeze 35 sx cement, sting out and spot 10 sx on top. trip out to 3200' roll hole with gel fluid, trip out to 2800', balance 12 sx cement. Stand back 690' pipe, lay out rest. SDFN crew travel to Cut Bank.

Day 2

Crew travel to location, hold safety meeting and start up equip. trip in hole with casing ripper and rip at 685'. Trip out tool, swedge casing, establish circulation, pump 130 sx cement around for returns up annulas. Shut in well, rig down all equipment. Dig out well 6' below surface, cut and cap well @ 4' below ground level. Reclaim well hole and working pit. Travel to town.

Unit Price	#ea	<b>Equipment</b>	<u>Day 1</u>	Day 2	Day 3	Day 4	<u>Total</u>
\$260.00 hr	1	Rig	10	6			\$4,160.00
\$50.00 hr	8	Crew trave hr	1	1			\$800.00
\$55.00 day	1	Daily Pickup charge	3	3			\$330.00
\$450.00 day	1	Supervisor /tool pushe	e 2	2			\$1,800.00
\$0.00 ea/day	1	Subsistence					\$0.00
\$1,600.00 well/day	1	Cement Pump Truck	1	1			\$3,200.00
\$4.00 mile	1	Pump Truck Mileage	45				\$180.00
\$750.00 well/day	1	Cement Bulk Truck	1	1			\$1,500.00
\$4.00 mile	1	Bulk Truck Mileage	45				\$180.00
\$23.00 sac	1	Bulk Cement	57	130			\$4,301.00
\$125.00 hr	1	Water Truck	10	6			\$2,000.00
\$100.00 hr	1	Welding Truck		2			\$200.00
\$100.00 hr	1	Backhoe	4	4			\$800.00
\$50.00 per day	1	enviro/safety	1	1			\$100.00
\$2,100.00 ea	1	CICR	1				\$2,100.00
\$100.00 ea/well	1	WS tralier	1	1			\$200.00
\$1.25 per lb	1	CaCl					\$0.00
\$1,500.00 per rip	1	casing ripper		1			\$1,500.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00

**TOTAL** \$23,351.00

Company: MOGO INC. Well: P&A Jody Field 34-2 Date: 10/06/22

MIRU service rig and cementing equip. release packer and TOH. Round trip casing scraper to 3400'. TIH with 4.5" CICR set at 3390'. Establish rate and squeeze 20 sx cement, sting out and spot 10 sx on top. trip out to 3200' roll hole with gel fluid, trip out to 2090', balance 12 sx cement. Stand back 675' pipe, lay out rest. SDFN crew travel to Cut Bank.

Day 2

Crew travel to location, hold safety meeting and start up equip. trip in hole with casing ripper and rip at 685'. Trip out tool, swedge casing, establish circulation, pump 130 sx cement around for returns up annulas. Shut in well, rig down all equipment. Dig out well 6' below surface, cut and cap well @ 4' below ground level. Reclaim well hole and working pit. Travel to town.

Unit Price	#ea	<u>Equipment</u>	<u>Day 1</u>	Day 2	Day 3	Day 4	<u>Total</u>
\$260.00 hr	1	Rig	10	6			\$4,160.00
\$50.00 hr	8	Crew trave hr	1	1			\$800.00
\$55.00 day	1	Daily Pickup charge	3	3			\$330.00
\$450.00 day	1	Supervisor /tool pushe	2	2			\$1,800.00
\$0.00 ea/day	1	Subsistence					\$0.00
\$1,600.00 well/day	1	Cement Pump Truck	1	1			\$3,200.00
\$4.00 mile	1	Pump Truck Mileage	45				\$180.00
\$750.00 well/day	1	Cement Bulk Truck	1	1			\$1,500.00
\$4.00 mile	1	Bulk Truck Mileage	45				\$180.00
\$23.00 sac	1	Bulk Cement	42	130			\$3,956.00
\$125.00 hr	1	Water Truck	10	6			\$2,000.00
\$100.00 hr	1	Welding Truck		2			\$200.00
\$100.00 hr	1	Backhoe	4	4			\$800.00
\$50.00 per day	1	enviro/safety	1	1			\$100.00
\$2,100.00 ea	1	CICR	1				\$2,100.00
\$100.00 ea/well	1	WS tralier	1	1			\$200.00
\$1.25 per lb	1	CaCl					\$0.00
\$1,500.00 per rip	1	casing ripper		1			\$1,500.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00

**TOTAL** \$23,006.00



# **Well Service & Completions**

Bid for Jody Field 34-1, 34-2 Injection wells

This bid is for the following work as requested by Patrick Montalban

Jody Field 34-1 Well

MIRSU, POOH with tubing and packer, TIH with tubing and casing scraper to 3400′, lay out scraper, pickup 4.5″ CICR, and RIH, set at 3380′, establish pump rate through retainer, squeeze 35sx cement, sting out of retainer and balance 10sx cement on top of retainer, pull out of cement, and fill hole with 9lb gelled water, POOH to 2800′ and balance a 12sx cement plug. POOH lay down tubing, pick up casing ripper and RIH to 685′, and rip from 685′ to 684′, lay out casing ripper, install casing swage, circulate 130sx cement down 4.5″ casing and up annulus until good cement returns are observed, tear out, RDMO.

**TOTAL: \$12250** 



# **Well Service & Completions**

Bid for Jody Field 34-1, 34-2 Injection wells

This bid is for the following work as requested by Patrick Montalban

Jody Field 34-2 Well

MIRSU, POOH with tubing and packer, TIH with tubing and casing scraper to 3400′, lay out scraper, pickup 4.5″ CICR, and RIH, set at 3390′, establish pump rate through retainer, squeeze 20sx cement, sting out of retainer and balance 10sx cement on top of retainer, pull out of cement, and fill hole with 9lb gelled water, POOH to 2090′ and balance a 12sx cement plug. POOH lay down tubing, pick up casing ripper and RIH to 675′, and rip from 675′ to 674′, lay out casing ripper, install casing swage, circulate 130sx cement down 4.5″ casing and up annulus until good cement returns are observed, tear out, RDMO.

**TOTAL: \$11700** 

Ramboll - Montalban Oil & Gas Operations, Inc. Area-Wide Class V UIC Application Attachment F Financial Assurance (40 CFR § 144.52)

# **Privileged and Confidential**

# **EXHIBIT B**

Standby Trust Agreement and Letter of Credit

# STANDBY TRUST AGREEMENT

# U.S. ENVIRONMENTAL PROTECTION AGENCY UNDERGROUND INJECTION CONTROL PROGRAM FINANCIAL RESPONSIBILITY REQUIREMENT

To: Mail Code: 8ENF-W-SWD
UIC Financial Coordinator
U.S. Environmental Protection Agency, Region 8
1595 Wynkoop Street
Denver, CO 80202-1129

TRUST AGREEMENT, the "Agreement", entered into as of October 10, 2022

by and between Montalban Oil & Gas Operations, Inc., a Montana Corporation, the "Grantor", and Freedom Bank, incorporate in the State of Montana, the "Trustee".

WHEREAS, the United States Environmental Protection Agency (EPA), an agency of the United States Government, has established certain regulations applicable to the Grantor, requiring that an owner or operator of an injection well shall provide assurance that funds will be available when needed for plugging and abandonment of the injection well(s),

WHEREAS, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facility or facilities identified herein, and

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this Agreement, and the Trustee is willing to act as trustee,

NOW THEREFORE, the Grantor and Trustee agree as follows:

#### Section 1. Definitions. As used in this agreement:

- (a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.
- (b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.
- (c) Facility or activity means any "underground injection well" or any other facility or activity that is subject to regulation under the Underground Injection Control Program.

Section 2. Identification or Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on attached Schedule A (attached). (Schedule A lists, for each facility, the EPA identification number, name, address, and the current plugging and abandonment cost estimate, or portions thereof, for which financial assurance is demonstrated.)

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the purpose of assuring compliance with the plugging and abandonment requirements established by EPA for the facilities identified on Schedule A. The Underground Injection Control regulations which govern the authorization to inject include a requirement for such financial assurance that the well or wells shall be plugged and abandoned at the time

designated by EPA. The Grantor and Trustee acknowledge that the Fund and all expenditures from the Fund shall be to fulfill the legal obligations of the Grantor under such regulations, and not any obligation of EPA. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible, nor shall it undertake any responsibility, for the amount or adequacy of any additional payments necessary to discharge any liabilities of the Grantor established by EPA, nor shall the Trustee have any duty to collect such additional amounts from the Grantor.

Section 4. Payment for Plugging and Abandonment. The Trustee shall make payments from the Fund only for the costs of plugging and abandonment (P&A) of the injection wells covered by this Agreement and the associated P&A Plan, only after EPA has advised the Trustee that work has been completed under the P&A Plan that complies with 40 C.F.R. § 144.28 and/or § 144.52. The Trustee shall not refund to the Grantor any amounts from the Fund unless and until EPA has advised the Trustee that the P&A Plan has been successfully completed. The Trustee shall not release any funds to the Grantor that are necessary to cover liability for any injection wells covered by this Agreement that remain unplugged.

<u>Section 5. Payments Comprising the Fund</u>. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall-discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

- (i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government:
- (ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and
- (iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion: (a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and (b) To purchase shares in any investment company registered

under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered: (a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition; (b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted; (c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve Bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund; (d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and (e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the appropriate EPA Regional Administrator a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the EPA Regional Administrator shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

<u>Section 11 Advice of Counsel</u>. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement of any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

<u>Section 12. Trustee Compensation</u>. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the EPA Regional Administrator, and the present Trustee by certified mail 10 days before such changes become effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the EPA Regional Administrator to the Trustee shall be in writing, signed by the EPA Regional Administrators of the Regions in which the facilities are located, or their designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or EPA hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or EPA, except as provided for herein.

<u>Section 15. Amendment of Agreement</u>. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the appropriate EPA Regional Administrator, or by the Trustee and the appropriate EPA Regional Administrator if the Grantor ceases to exist.

Section 16. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 15, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the EPA Regional Administrator, or by the Trustee and the EPA Regional Administrator if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 17. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the EPA Regional Administrator issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to prove such defense.

<u>Section 18. Choice of Law</u>. This agreement shall be administered, construed, and enforced according to the laws of the State of Colorado.

Section 19. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of the Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed by their respective representatives duly authorized and their seals to be hereunto affixed and attested as of the date first above written.

the date first above written.	
GRANTOR	TRUSTEE
By: Miller	By: 10/10/22
[Signature] [Date]	[Signature] [Date]
By: Patrick M. Montalban	By: Don Bennett
Its: President [Title]	Its: President [Title]
Address: Montalban Oil & Gas Operations, Inc	Freedom Bank
PO Box 200	PO Box 2076
Cut Bank, MT 59427	Columbia Falls, MT 59912
(406) 873-2845	(406) 892-1776
patrickm@mogo-inc.com	dbennette@freedombankmt.com
Attest: ma Dealle	Attest: Wax Staller  Its: Vice Mindel
Its: Wee Presidet [Title] Frepelle Bark	Its: Use Midely [Title]
CARIE PELUCCA NOTARY PUBLIC for the State of Montana Residing at Kalispell, Montana My Commission Expires February 3, 2024	CARIE PELUCCA NOTARY PUBLIC for the State of Montana Residing at Kalispell, Montana My Commission Expires February 3, 2024
Before me came the individual	Before me came the individual
whose identity I confirmed as Patrick M. Montalban,	whose identity I confirmed as Don Bennett,
and whose true signature is set	and whose true signature is set
forth above; wherefore have I set	forth above; wherefore have I set
my hand and seal this 10th day of 10th , 2022	my hand and seal this, 20 22.

Notary Public

Notary Public

#### **SCHEDULE A**

# Identification of Facilities and Cost Estimates

Schedule A is referenced in the Trust Agreement dated October 10, 2022 by and

between Montalban Oil & Gas Operations, Inc, the "Grantor" and Freedom Bank, the "Trustee".

The List of wells covered by this Letter of Credit are as follows:

Jody Field #34-1 – SESESW-Section 34-T29N-R6W – Pondera County, MT API No. 25-073-21830 - \$23,351.00

Jody Field #34-2 – NENWSW-Section 24-T29N-R6W – Pondera County, MT API No. 25-073-21838 – \$23,006.00

EPA ID	API	WELL NAME	LOCATION	COST	ESTIMATE DATE (if O/O provides estimate)
				1	T
	· · · · · · · · · · · · · · · · · · ·				
			****		
	77.37.47.60.60.60.60.60.60.60				
			and the second second second second		
	-				

# SCHEDULE B

# Description of Property / Financial Instrument

[Surety, Letter of Credit, etc.]

Schedule B is referenced in the Standby Trust Agreement (Section 3) dated <u>October</u> 10, 2022 by and between Montalban Oil & Gas Operations, Inc., the "Grantor," and Freedom Bank, the "Trustee."

Description of Property/Financial Instrument:

1. Letter of Credit

# CERTIFICATE OF ACKNOWLEDGEMENT FOR STANDY TRUST FUND AGREEMENT

STATE OF :	Montana	
COUNT OF :	Glacier	_
		_
On this10th	day of <u>October</u> , 20 <u>2</u>	3 before me personally came
Patrick M. Montalban	to me known, who, b	eing by me duly sworn, did depose
(Owner or Opera	tor)	
and say that he/she resid	les atCut_Bank, MT	, that he/she is
	(Address)	
President	of Montalban O	il & Gas Operations, Inc
(Title)	(Corpor	ration)

the corporation described in and which executed the above instrument; the he/she knows the seal of said corporation; that the seal affixed to such instrument in such corporation seal; that is was so affixed by order of the Board of Directors of said corporation, and that he/she signed his/her name thereto by like order.

CARLA R BARRINGER
NOTARY PUBLIC for the
State of Montana
Residing at Conrad, Montana
My Commission Expires

De - 1 9, 2023



U.S. Environmental Protection Agency (EPA)
UIC Financial Coordinator
U.S. Environmental Protection Agency, Region 8
1595 Wynkoop Street
Denver, CO 80202-1129

October 10, 2022

Re: Letter of Credit #50

Name: Montalban Oil & Gas Operations, Inc.

Amount: \$46,357

To Whom it may concern:

We hereby establish our Irrevocable Standby Letter of Credit No. 50 in your favor, at the request and for the account of Montalban Oil & Gas Operations, Inc., a Montana Corporation at P.O. Box 200, Cut Bank, MT 59427 up to the aggregate amount of Forty-Six Thousand Three Hundred Fifty-Seven Dollars [\$46,357.00)] available upon presentation of the following documentation by U.S. Environmental Protection Agency Regional Administrator of Region 8:

- 1. Your sight draft, bearing reference to this letter of credit No 50, and
- 2. Your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of the Safe Drinking Water Act".

This letter of credit is effective as of October 10, 2022 and shall expire on October 10, 2023, but such expiration date shall be automatically extended for a period of 1 year on October 10, 2023 and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and Montalban Oil & Gas Operations, Inc., by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and Mogo Reagan, LLC, as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of Montalban Oil & Gas Operations, Inc., in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in 40 CFR 144.70(d) as such regulations were constituted.

Don Bennett, President of Freedom Bank

Company: MOGO INC.

Well: P&A Jody Field 34-1

Date: 10/06/22

MIRU service rig and cementing equip. release packer and TOH. Round trip casing scraper to 3400'. TIH with 4.5" CICR set at 3380'. Establish rate and squeeze 35 sx cement, sting out and spot 10 sx on top. trip out to 3200' roll hole with gel fluid, trip out to 2800', balance 12 sx cement. Stand back 690' pipe, lay out rest. SDFN crew travel to Cut Bank.

Day 2

Crew travel to location, hold safety meeting and start up equip. trip in hole with casing ripper and rip at 685'. Trip out tool, swedge casing, establish circulation, pump 130 sx cement around for returns up annulas. Shut in well, rig down all equipment. Dig out well 6' below surface, cut and cap well @ 4' below ground level. Reclaim well hole and working pit. Travel to town.

Unit Price	#ea	<b>Equipment</b>	Day 1	Day 2	Day 3	Day 4	Total
\$260.00 hr	1	Rig	10	6			<del></del>
\$50.00 hr	8	Crew trave hr	1	1			\$800.00
\$55.00 day	1	Daily Pickup charge	3	3			\$330.00
\$450.00 day	1	Supervisor /tool pushe	2	2			\$1,800.00
\$0.00 ea/day	1	Subsistence					\$0.00
\$1,600.00 well/day	1	Cement Pump Truck	1	1			\$3,200.00
\$4.00 mile	1	Pump Truck Mileage	45				\$180.00
\$750.00 well/day	1	Cement Bulk Truck	1	1			\$1,500.00
\$4.00 mile	1	Bulk Truck Mileage	45				\$180.00
\$23.00 sac	1	Bulk Cement	57	130			\$4,301.00
\$125.00 hr	1	Water Truck	10	6			\$2,000.00
\$100.00 hr	1	Welding Truck		2			\$200.00
\$100.00 hr	1	Backhoe	4	4			\$800.00
\$50.00 per day	1	enviro/safety	1	1			\$100.00
\$2,100.00 ea	1	CICR	1				\$2,100.00
\$100.00 ea/well	1	WS tralier	1	1			\$200.00
\$1.25 per lb	1	CaCl					\$0.00
\$1,500.00 per rip	1	casing ripper		1			\$1,500.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
						TOTAL	<b>\$23,351.00</b>

Company: MOGO INC.

Well: P&A Jody Field 34-2

Date: 10/06/22

MIRU service rig and cementing equip. release packer and TOH. Round trip casing scraper to 3400'. TIH with 4.5" CICR set at 3390'. Establish rate and squeeze 20 sx cement, sting out and spot 10 sx on top. trip out to 3200' roll hole with gel fluid, trip out to 2090', balance 12 sx cement. Stand back 675' pipe, lay out rest. SDFN crew travel to Cut Bank.

Day 2

Crew travel to location, hold safety meeting and start up equip. trip in hole with casing ripper and rip at 685'. Trip out tool, swedge casing, establish circulation, pump 130 sx cement around for returns up annulas. Shut in well, rig down all equipment. Dig out well 6' below surface, cut and cap well @ 4' below ground level. Reclaim well hole and working pit. Travel to town.

Unit Price	#ea	Equipment	Day 1	Day 2	Day 3	Day 4	Total
\$260.00 hr	1	Rig	10	6			\$4,160.00
\$50.00 hr	8	Crew trave hr	1	1			\$800.00
\$55.00 day	1	Daily Pickup charge	3	3			\$330.00
\$450.00 day	1	Supervisor /tool pushe	2	2			\$1,800.00
\$0.00 ea/day	1	Subsistence					\$0.00
\$1,600.00 well/day	1	Cement Pump Truck	1	1			\$3,200.00
\$4.00 mile	1	Pump Truck Mileage	45				\$180.00
\$750.00 well/day	1	Cement Bulk Truck	1	1			\$1,500.00
\$4.00 mile	1	Bulk Truck Mileage	45				\$180.00
\$23.00 sac	1	Bulk Cement	42	130			\$3,956.00
\$125.00 hr	1	Water Truck	10	6			\$2,000.00
\$100.00 hr	1	Welding Truck		2			\$200.00
\$100.00 hr	1	Backhoe	4	4			\$800.00
\$50.00 per day	1	enviro/safety	1	1			\$100.00
\$2,100.00 ea	1	CICR	1				\$2,100.00
\$100.00 ea/well	1	WS tralier	1	1			\$200.00
\$1.25 per lb	1	CaCl					\$0.00
\$1,500.00 per rip	1	casing ripper		1			\$1,500.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
*							\$0.00
							\$0.00
							\$0.00
						<u>TOTAL</u>	<u>\$23,006.00</u>

Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

Attachment G
Site Security and Manifest
Requirements (Commercial
Wells Only)

# **CONTENTS**

1. Site Security and Wastewater Manifesting

2

# **FIGURES**

Figure 1. Site Security and Access

# 1. SITE SECURITY AND WASTEWATER MANIFESTING

The injection facility is located on private land, which is fenced and gated by the landowner. Trucks enter via a single access point from Range View Road into the injection facility. As indicated on Figure 1, the landowner's residence is located adjacent to the facility. The site will be monitored 8 to 12 hours per day by the operator, along with observation by the landowner during his rounds each day. Wells Jody Field 34-1 and 34-2 are securely enclosed in buildings that are insulated and heated for winter operations.

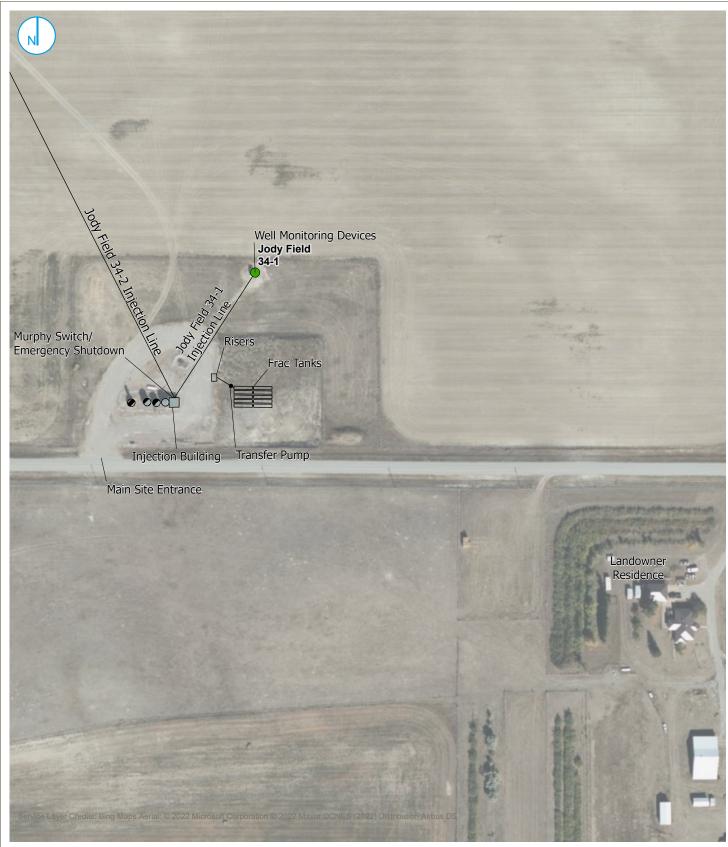
Representative wastewater quality parameters will be provided by Montana Renewables to Montalban Oil & Gas Operations, Inc. prior to commencing initial operations. Sampling of pH will be conducted daily at the refinery. At the injection facility, a "tap" will be placed at a conveniently accessible location on the discharge line of the pump that leads to the injection wells. A representative water sample will be collected quarterly for submittal to EPA.

Attachment G
Site Security and Manifest Requirements
(Commercial Wells Only)

# **Privileged and Confidential**

# **FIGURES**

Figure 1. Site Security and Access



PROJECT: 169000XXXX | DATED: 9/15/2022 | DESIGNER: CHURCHKE Map Scale: 1:3,000 | Map Center: 112°22'13"W 48°13'19"N

Active Injection

# SITE SECURITY AND ACCESS

**MONTALBAN OIL AND GAS** OPERATIONS INC - AREA WIDE UIC APPLICATION **JODY FIELD WELLS** 

# **Attachment G** Figure - 01

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY



Out of Service Equipment

C:\Users\ChurchKE\OneDrive - Ramboll\GIS Projects\Montana Oil\MontanaOil\_AOR\MontanaOil\_AOR.aprx\Att. G Figure 01

250 **\_\_\_** Feet

KEY MAP (not to scale)

Prepared by
Ramboll US Consulting
Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

Attachment H
Underground Injection Control
Program: Madison Aquifer
Exemption Request



Introduction

2

#### **Privileged and Confidential**

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# **EXHIBITS**

Exhibit A. Water Quality Analysis Wells Jody Field 14-34 and 4-1

Exhibit B. Powers Farm 29-1 Density/Neutron Log

Figure AE.15. Private and Public Water Wells

# 1. INTRODUCTION

Montalban Oil & Gas Operations, Inc (Montalban) submitted an area-wide underground injection control (UIC) permit application to USEPA Region 8 for conversion of two (2) existing Class II UIC wells and two (2) shut-in oil and gas wells to Class V UIC wells for injection of industrial wastewater to be received from Montana Renewables, a renewable fuels refinery located in Great Falls, Montana. The wells are located in the Loneman Coulee Oil Field north of Great Falls in Pondera County, Montana (**Figure AE.01**).

The application involves a phased approach with initial conversion of the two Class II wells and subsequent conversion of the two shut-in oil and gas wells at a later date to accommodate future wastewater volumes from the refinery.

The Class II wells are currently permitted by the Montana Department of Natural Resources & Conservation (DNRC) Board of Oil and Gas Conservation (BOGC) and have been granted aquifer exemptions for injection of oilfield produced water into the Madison Aquifer. The wells and aquifer exemptions are identified as follows:

Well Jody Field 34-1 Section 34-Township 29 North, Range 6 West Pondera County, Montana API No. 25-073-21830 Well Depth: 3,530'

Injection Formation: Madison/Sun River Dolomite

Injection Interval: 90'

Aquifer Exemption Number: 8-1681 (08/15/2011)

Jody Field No. 34-2 Section 34-Township 29 North, Range 6 West Pondera County, Montana API No. 25-073-21838 Well Depth: 3,491'

Injection Formation: Madison/Sun River Dolomite

Injection Interval: 73'

Aguifer Exemption Number: 8-1008 (03/15/2010)

The areal extent of the current aquifer exemptions are 0.19635 square miles each. Because the current exemptions are specific to injection of oilfield waste into Class II UIC wells, Montalban is requesting a new Area-Wide Aquifer Exemption for injection of industrial wastewater into the proposed Class V UIC wells (Figure AE.02).

The two (2) shut-in oil and gas wells to be included in the Aquifer Exemption Area will be completed in the Madison Aquifer and are identified as follows:

Well Jody Field 4-1A Section 4- Township 28 North, Range 6 West Pondera County, Montana API No. 25-073-21842 Well Depth: 3,442'

Well Jody Field No. 14-34 Section 34-Township 29 North, Range 6 West Pondera County, Montana API No. 25-073-21740 Well Depth: 3,415'

The following application demonstrates the regulatory basis for requesting the new aquifer exemption based on water quality criteria and the fact that the aquifer within the area of interest is not anticipated to serve as a public drinking water source as required under Title 40, Code of Federal Regulations (40 CFR), Parts 146.4(a) and 146.4(c). This application also delineates the proposed Aquifer Exemption Area based on the aquifer characteristics, confining layers, areawide UIC permit boundary, Area of Review (AoR) and anticipated injection volumes over the life of the refinery.

# 2. LAND USE

The proposed UIC wells are located within the Loneman Coulee Oil Field in Pondera County, Montana. The land within the requested exemption area is used for oil and gas related activities and agriculture. The identities of the landowners are provided in **Figure AE.03** and detailed in **Table 1** below.

TABLE 1. Landowners within the Aquifer Exemption Area				
Landowner	Parcel #	Use		
Field, Jody	26-4096-34-4-04-01-0000	Agricultural		
Vandenbos, William D & Tamara K JTRos	26-4096-33-4-01-01-000	Agricultural		
Vandenbos, Keith E & Leiha R. JTRos	26-4096-33-1-01-01-0000	Agricultural		
Field, Jody	26-4096-34-2-03-03-0000	Agricultural		
Field, Jody	26-4096-34-1-03-01-0000	Agricultural		
Field Ranch Inc.	26-3984-03-2-02-02-0000	Agricultural		
Field Ranch Inc.	26-3984-04-1-01-01-0000	Agricultural		
Field Ranch Inc.	26-3984-04-2-02-01-0000	Agricultural		
Vandenbos, William D & Tamara K JTRos	26-4096-33-4-01-01-000	Agricultural		

#### 2.1 Geology

#### 2.1.1 Geological Structure of the Madison Aquifer

The Madison Aquifer is part of the Northern Great Plains aquifer system, which extends across Montana, Wyoming, North Dakota, and South Dakota and lies beneath confining units in the proposed aquifer exemption area (**Figure AE.04**) (USGS, 1996). The Madison Aquifer in this area is comprised of the Mississippian Madison Limestone, which includes the Lodgepole Limestone, overlain by the Mission Canyon Limestone. The deposits consist of marine carbonates and evaporites deposited in a shallow water environment (Downey, 1984). The Lodgepole Limestone consists mainly of fossiliferous to micritic dolomite and limestone units. The Mission Canyon Limestone consists of a coarsely crystalline limestone at its base, grading upward to finer crystalline limestone. Because of the solubility of the Madison Limestone carbonate rocks, the development of karst features is common, including enlarged joints, sink holes, caves and solution breccias, resulting in secondary permeability within the units. Downey (1984) indicated that within the Madison Aquifer, "fracture interconnection between zones of greater permeability appear to be the major route of water flow." The thickness of the Madison Limestone in northwestern Montana is mapped at approximately 1,000 to 1,200 feet as illustrated on **Figure AE.05** (Downey, 1984).

The Class II UIC wells (Jody Field wells 34-1 and 34-2) are completed within the Sun River Dolomite, the uppermost section of the Mission Canyon formation. The Sun River Dolomite ranges up to an average of approximately 200 feet thick in this area with the Mission Canyon and Lodgepole extending approximately 1,000 feet in thickness beneath that (Pasternack, 1988). A cross section was prepared based on well data gathered from Montana BOGC records (**Figures AE.06 and AE.07**). As indicated in the cross section, the Sun River Dolomite, in close proximity to the proposed Class V wells, is approximately 250 feet thick. The thickest completed injection interval in the existing Class II UIC wells is 90 feet thick.

The Sun River Dolomite has been studied extensively for its hydrocarbon production potential and was determined to have an average porosity of 8 to 14% and average permeability of 10 to 82 millidarcy (md) with the highest values observed in the Pondera Field. **Figure AE.08** indicates the porosity values mapped in the Pondera field and surrounding areas. According to Pasternack (1988), two dominant porosity types lie within the Sun River Dolomite; moldic porosity in discreet areas developed from dissolution of bioclastic debris and fracture porosity, which is evident throughout all areas of the Sun River Dolomite. Bioclastic debris is deposited as shallow marine bars oriented northwest-southeast. As indicated on **Figure AE.08**, the Jody Field wells are located within a bioclastic debris trend that intersects the Pondera and Highview Fields and have a bioclastic debris composition greater than 20%, inferring a high percentage of moldic porosity. The Class II Aquifer Exemptions established for this area by the Montana DOGC are based on a porosity in the range of 14% (telephone conversation with George Hudak, July 2022) and confirmed in regional well logs.

#### 2.1.2 Confining Zones

The Madison Aquifer is bounded by confining layers that separate it from the Lower Paleozoic and Lower Cretaceous aquifers (**Figure AE.09**).

The Madison Limestone is overlain by the unconforming confining units of the Jurassic Ellis Group, which consists of the Swift, Rierdon and Sawtooth (Piper) formations. The Ellis Group forms a confining layer between the Mississippian and lower Cretaceous aquifers and is present within the UIC wells above the Madison Sun River Dolomite (**Figures AE.10** and **AE.11**).

According to USGS (2022), The Sawtooth formation in Western Montana consists of dark gray, platy to shaly, dense limestone with a local basal conglomerate. The Rierdon Formation includes gray, locally fossiliferous limestone that may contain quartz sand interbedded with greenish gray limy shale. The Swift Formation includes glauconitic, flaggy-bedded, commonly fossiliferous, fine-grained sandstone or sand coquina with dark gray shale interbeds. A dark gray, noncalcareous, micaceous shale forms the lower part of the formation, commonly with a basal chert pebble conglomerate or conglomeratic sandstone. Based on review of local well logs, the total thickness of the confining units within the Ellis group is over 220 feet.

Logs reviewed from oil and gas wells in the region indicate that the Sun River Dolomite ranges up to as much as 300 feet thick beneath the Ellis Group. Review of well logs from two nearby wells drilled deeper into the Madison indicate the presence of a dense, cherty unit with a minimum thickness of 108 feet to 147 feet directly beneath the Sun River Dolomite (API #25-073-05457 and API #25-073-05439). This unit was documented to have low to no porosity.

The confining units beneath the Mississipian Madison Formation include Silurian and Devonian units consisting mainly of shaly carbonates, shale, and evaporites (**Figure AE.12**). Because of the fine-grained lithology and the presence of evaporites in the Silurian and Devonian units, these formations are considered to be confining beds between the Mississippian aquifer and the underlying Cambrian-Ordovician aquifer (Downey, 1984). Hydrologic modeling results of Downey (1984, 1986) indicate that vertical hydraulic conductivity between the Cambrian-Ordovician and Madison aquifers is less than 10-6 ft/d throughout the study area.

The Devonian Duperow formation, which is separated from the Madison Aquifer by the Three Forks formation, was recently classified as an underground source of drinking water (USDW) in central Montana due to intervals of total dissolved solids (TDS) concentrations less than 10,000 mg/L and greater than 3,000 mg/L. The thickness of the confining layer (Three Forks formation) in the proposed Aquifer Exemption Area between the Madison and underlying Duperow aquifer is approximately 200 feet (Pasternack, 1988). Review of well logs of the easternmost well depicted on the cross section (API #25-073-21523) indicate that the Duperow formation in this area of Montana is impermeable from the top of the formation to a thickness of at least 208 feet (Exhibit B).

#### 2.1.3 Depth and Thickness of the Madison Aquifer

The thickness of the Madison Aquifer in the proposed aquifer exemption area ranges between 1,100 and 1,200 feet (Downey, 1984), as indicated on **Figure AE.05**. The depth below the surface to the Madison is reported at 3,428' in Jody Field 34-1 and 3,438' in Jody Field 34-2 (**Figures AE.10** and **AE.11**). The aquifer exemption is requested within the Sun River Dolomite, which is approximately 250 feet thick in the proposed Aquifer Exemption Area based on review of well data filed by Conoco for a well located immediately west of the Aquifer Exemption Area (API No. 25-073-05439) (**Figures AE.06 and AE.07**).

#### 2.2 Water Quality

The primary minerals within the Madison Limestone include calcite, dolomite and anhydrite, with dissolution of anhydrite and dolomite largely contributing to the water quality throughout the aquifer (Busby, 1991). The presence of hydrogen sulfide odor in the wells analyzed by the USGS was also noted during sampling and determined to be due in part to a terrigenous source of sulfur which has been noted in the proposed Aquifer Exemption Area (Telephone conversation with George Hudak, July 2022).

Due to the presence of anhydrites, the TDS concentrations in the Madison Aquifer vary greatly from less than 1,000 mg/L to greater than 300,000 mg/L depending on the location within the formation and groundwater flow characteristics (Downey, 1984). According to George Hudak, UIC Coordinator, Montana BOGC, the TDS concentration in the proposed Aquifer Exemption Area ranges above 5,000 mg/L.

The Montana Bureau of Mines and Geology mapped TDS concentrations in the immediately surrounding areas. The data, collected from oil tests or production wells between 1920 and 1977, indicated TDS concentrations in the Sun River Dolomite ranging from around 4,490 to 6,660 mg/L and TDS concentrations in the Madison Formation ranging from around 3,240 to 7,100 mg/L (Feltis, 1980b). A water sample collected from Well 14-34 (API #25-073-21740), which is centrally located within the Aquifer Exemption Area, reported a TDS concentration of 5,440 mg/L (Exhibit A). A water sample collected from Well 4-1 (API#25-073-21824) indicated a calculated TDS concentration of 5,109 mg/L (Exhibit A).

# 3. PERMIT AREA FOR THE AQUIFER EXEMPTION

The Madison Aquifer injection zone in Well Jody Field 34-1 ranges from a depth of 3,440 feet to 3,530 feet for a total injection interval of 90 feet within the Madison/Sun River Dolomite. The injection zone in Well Jody Field 34-2 ranges from a depth of 3,418 feet to 3,491, for a total injection interval of 73 feet. Regional groundwater flow direction through the southern and eastern portion of the Madison Aquifer is northeastward (USGS, 1996). A potentiometric surface map generated by the Montana Bureau of Mines and Geology based on local oil and gas well data indicates a northward groundwater flow direction in the vicinity of the Aquifer Exemption Area (Feltis, 1980a). The proposed Aquifer Exemption Area is located on the western edge of the Great Plains, west of the Sweetgrass Arch and east of the Rocky Mountains Region. There are no mapped or known faults within the Aquifer Exemption Area.

According to Pasternack (1988), the average porosity and permeability values for the Madison/Sun River Dolomite in the area of the requested aquifer exemption are 14% and 82 md respectively. Review of well logs indicated porosities in the upper Madison Formation of up to 20%. A conservative estimate of 14% was selected and the Montana BOGC agreed that a porosity of 14% would be representative of the injection intervals in the Jody Field Wells (Telephone conversation with George Hudak, July 2022). A radius of ½ mile was calculated for each well, and based on that distance, an area-wide boundary was plotted to encompass the extent of the radii for the current and future proposed injection wells and to align with a more

conservative area of review (AoR) **Figure AE.02**). The calculated area within the Area-Wide Aquifer Exemption boundary is 3.3 square miles.

The thickness of the Madison/Sun River Dolomite is approximately 150 feet thick in the proposed Aguifer Exemption Area (Pasternak, 1988), with nearby well logs indicating a thickness up to approximately 250 feet. However, a conservative thickness of 90 feet was used to calculate the available storage volume. Based on these parameters, the available storage volume within the aguifer exemption area is a probable 275.3 MMBBL. Wastewater volumes generated from Montana Renewables will commence at approximately 1,600 to 1,800 barrels per day (BPD) and increase over time to a maximum of 3,600 BPD. The volume sent to each of the Class V wells will be dependent on the operational capacity of the permitted wells. Injection into the Class V wells would be performed within the permitted maximum allowable injection pressures (MAIP) for each well and would not exceed the fracture pressure gradient of the formation, mitigating the risk of fluid migration outside of the permitted Aquifer Exemption Area. Based on a facility life of 40 years, the maximum volume of wastewater from Montana Renewables that would be injected at a maximum flow rate of 3,600 BPD is 52.6 million barrels (MMB), which would be anticipated to encompass an area of approximately 0.84 square miles. Thus, the proposed area of 3.3 square miles represents a very conservative aquifer exemption boundary allowing for any unanticipated geologic complexities.

# 4. BASIS FOR DECISION

#### 4.1 Regulatory Criteria Under Which the Exemption is Requested

Exemption of the Madison aquifer is requested on the basis that it is not currently used as a drinking water source as required under 40 CFR 146.4(a). Additionally, the Madison Aquifer is located at a depth of over 3,400 feet in the proposed Aquifer Exemption Area, beneath other accessible aquifers and thick confining layers. In accordance with 40 CFR Part 146.4 (b)(2), the Madison aquifer in this area is situated at a depth or location which makes recovery of groundwater for drinking water purposes economically or technologically impractical. Furthermore, TDS concentrations exceeding 5,000 mg/L have been measured in the Madison Aquifer within the Aquifer Exemption Area. Under 40 CFR Part 146.4(c), TDS concentrations greater than 3,000 and less than 10,000 mg/L are not reasonably expected to supply a public water system. Both criteria qualify the Madison Aquifer in this area for an aquifer exemption.

#### 4.2 Assessment of the Madison Aquifer as a Source of Drinking Water

The Madison Aquifer in this area is measured at a depth greater than 3,400 feet and is separated from other shallow, accessible USDWs by several hundred feet of confining layers. The Madison/Sun River Dolomite section of the Madison Group is hydrocarbon producing (Gaswirth, 2010). Oil was first discovered in the Madison Formation in the area in the nearby Pondera Field in the 1920's (Hennip, 1973). The oil and gas wells in this area have either been plugged and abandoned, shut-in, or converted to injection wells (**Figure AE.13**).

Pondera County measures 1,640 square miles and is located approximately 90 miles northwest of Great Falls, which is the third largest city in Montana with a population of 58,700 (**Figure AE.14**). The population of Pondera County has declined steadily over the past several decades

and according to the Census Bureau had declined to below 6,000 in 2021. Agricultural production employed 45% of the County's labor force in 2017, and agricultural land accounted for 25% of the county's tax base (Montana State University, 2022). The median household income in 2020 was \$30,464 (Wikipedia, 2022).

The population is served by nine (9) small water systems that draw from shallow groundwater wells and local reservoirs, as well as privately owned shallow water wells. The Madison Aquifer is not currently used as a drinking water supply in the proposed Aquifer Exemption Area. Most of the shallow Quaternary aquifers are comprised of unconsolidated alluvial deposits from the surrounding mountains (Noble, 1982bb). According to Noble (1982), these aquifers are primarily water-table aquifers, and groundwater movement follows the topography in a downstream direction. Recharge to the shallow alluvial aquifers is primarily through rainfall and snowmelt. Deeper Tertiary aquifers in the area range from depths of 100 to 300 feet and include coarse grained interbedded sandstones, channel conglomerates, tuffs and siltstones (Noble, 1982b). Alluvial aquifers are the most used aquifers in the Great Plains region of Montana, due to their high yields and proximity to agricultural land (Noble, 1982a).

Given several factors, including the more remote location of the proposed Aquifer Exemption Area, current demographics and availability of a drinking water sources within the shallower alluvial deposits, depth to the Madison Aquifer and its water quality (i.e., documented high TDS concentrations and potential presence of hydrogen sulfide), it is unlikely that the Madison Aquifer will ever be developed as a public drinking water supply for this area.

#### 4.3 Private and Public Wells Drinking Water Wells

**Figure AE.15** indicates the locations of nearby private and public water wells. Only one well is located within the proposed Aquifer Exemption Area:

Montana Groundwater Information Center (GWIC) Well ID: 81476

Well Owner: Field, C.W. Jr., Route #1, Valier, MT 59486

Aquifer: Unknown

Use: Domestic and Stockwater Date Completed: January 19, 1953

Total Depth: 109 feet Static Water Level: 17 feet

**Figure AE.15** indicates four (4) water wells are located in the near vicinity outside of the proposed Aquifer Exemption Area (**Table 2**). Well #83374 is an agricultural well completed to a depth of 207 feet with a static water level of 160 feet.

TABLE 2. Nearby Private and Public Wells Outside the Aquifer Exemption Boundary – Source: Montana Groundwater Information Center (GWIC)

Well Owner Information	Aquifer	Date Completed	Well ID and Use	Well Depth (ft)	Static Water Level (ft)
Allen, John E. Valier, MT 59486	Sandstone Unit	12/27/1963	#83374 - Agricultural	207	160
Fed Land Bank 1	Unknown	Unknown	#915142 - NA	Unknown	Unknown
Allen 1	Unknown	Unknown	#915479 - NA	Unknown	Unknown
Pondera County Canal & Reservoir Co. Valier, MT 59486	Unknown	12/16/1963	#83372 - Domestic	Unknown	13

# **5. CONCLUSION**

The proposed Aquifer Exemption Area is calculated based on conservative parameters of 14% porosity and an aquifer thickness of 90 feet, resulting in a calculated storage capacity of 275.3 MMBBL. Sufficient storage exists for injection of wastewater from Montana Renewables within the proposed Aquifer Exemption Area. Thick confining layers are present above and below the Madison Aquifer, preventing migration of injected fluids into surrounding USDWs. Injection into the Class V wells would be performed within the permitted maximum allowable injection pressures (MAIP) for each well and would not exceed the fracture pressure gradient of the formation, mitigating the risk of fluid migration outside of the Aquifer Exemption Area. No water wells are supplied by the Madison Aquifer in this area. Due to its depth (>3,000 ft) and TDS concentrations (> 5,000 mg/L), it is not anticipated that this aquifer would be used as a drinking water supply. Sufficient water resources exist in the area at depths ranging from less than 207 feet.

#### 6. REFERENCES

Busby John F, et al., Geochemical Evolution of Water in the Madison Aquifer in Parts of Montana, South Dakota, and Wyoming, U.S. Geological Survey Professional Paper 1273-F, 1991

Downey, Joe S., Geohydrology of the Madison and Associated Aquifers in Parts of Montana, North Dakota, South Dakota, and Wyoming; Geology and Hydrology of the Madison Limestone and Associated Rocks in Parts of Montana, Nebraska, North Dakota, South Dakota and Wyoming, U.S. Geological Survey Professional Paper 1273-G, 1984

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Noble, Roger A., et al, Occurrence and Characteristics of Groundwater In Montana, Volume 2, The Rocky Mountain Region, Montana Bureau of Mines and Geology, 1982b

Pasternack, Ira, Nature and Distribution of Mississippian Sun River Dolomite Porosity, West Flank of the Sweetgrass Arch, Northwestern Montana, August 16, 1988

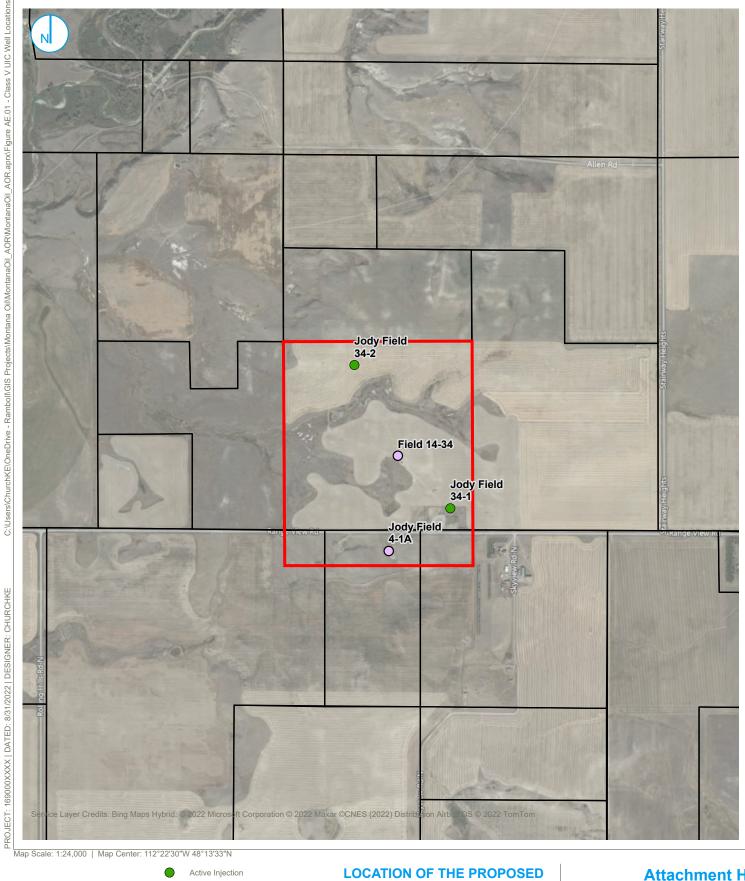
US Geological Survey, Ground Water Atlas of the United States: Segment 8, Montana, North Dakota, South Dakota, Wyoming, Hydrologic Investigations Atlas 730-I, 1996

USGS Online Reference, <a href="https://mrdata.usgs.gov/geology/state/sgmc-unit.php?unit=MTJe%3B0">https://mrdata.usgs.gov/geology/state/sgmc-unit.php?unit=MTJe%3B0</a>, 2022

Wikipedia, Pondera County, Montana, <a href="https://en.wikipedia.org/wiki/Pondera County">https://en.wikipedia.org/wiki/Pondera County</a>, <a href="mailto:Montana">Montana</a>, <a href="mailto:2022">2022</a>

# **FIGURES**

Figure AE.01.	Location of the Proposed Montalban Oil & Gas Operations, Inc. Class V Wells
Figure AE.02.	Existing and Proposed Aquifer Exemption Areas
Figure AE.03.	Landowners and Land Use within the Aquifer Exemption Area
Figure AE.04.	Aquifers and Confining Units of the Northern Great Plains Aquifer System.
Figure AE.05.	Northern Great Plains Aquifer System, Madison Formation Thickness
Figure AE.06.	Geologic Cross Section Location
Figure AE.07.	Geologic Cross Section
Figure AE.08	Sun River Dolomite Porosity Isopach Map
Figure AE.09.	Northern Great Plains Aquifer System Stratigraphic Column
Figure AE.10.	Jody Field 34-1 Well Log
Figure AE.11.	Jody Field 34-2 Well Log
Figure AE.12.	Thickness of underlying Devonian Confining Layer in the Aquifer Exemption Area
Figure AE.13.	Oil and Gas Wells in the Aquifer Exemption Area
Figure AE.14.	Map of Pondera County
Figure AE.15.	Private and Public Water Wells



# **Attachment H** Figure - AE.01

RAMBOLL US CONSULTING, INC. A RAMBOLL COMPANY

RAMBOLL

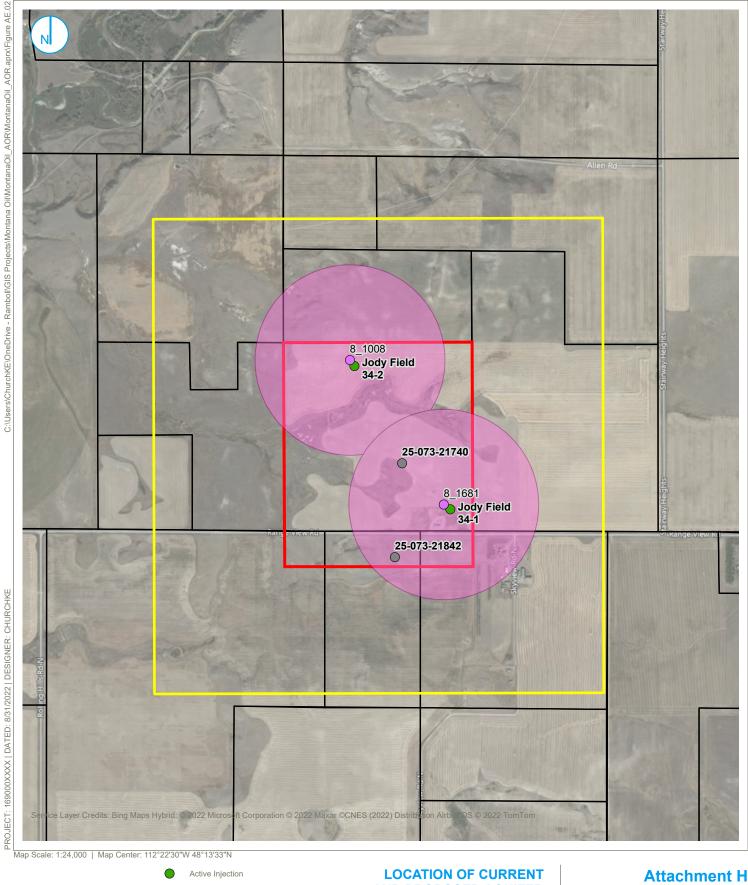
**MONTALBAN OIL AND GAS** 0 Shut-In Well Location **OPERATIONS, INC. CLASS V** Area- Wide UIC Parcel Boundaries

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION **JODY FIELD WELLS** 2,000 1,000

Feet

**WELLS** 

KEY MAP (not to scale)



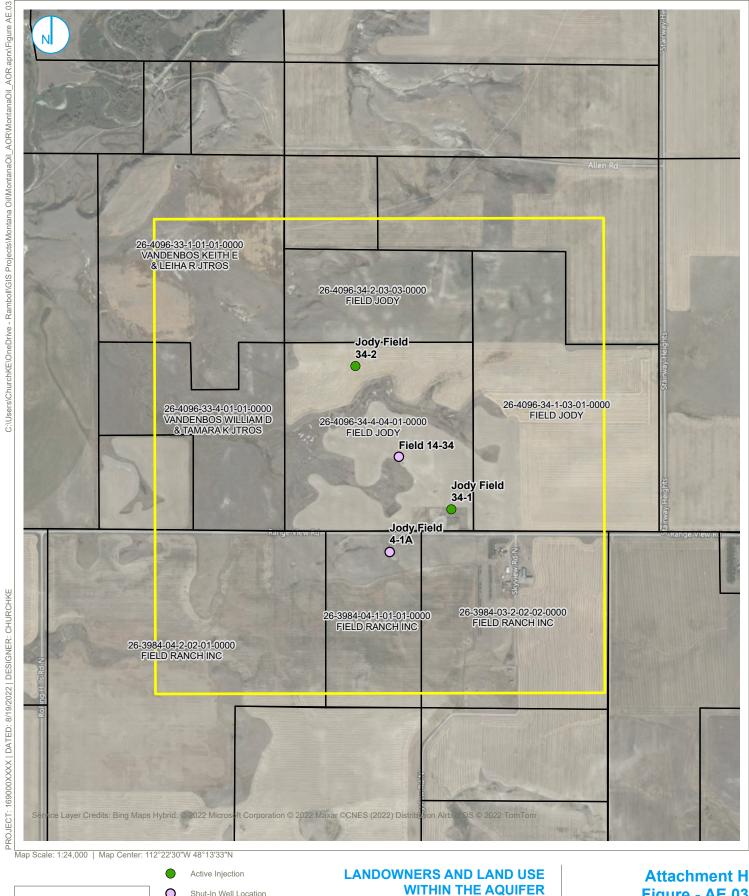


#### LOCATION OF CURRENT AND PROPOSED AQUIFER EXEMPTION AREA

MONTALBAN OIL AND GAS
OPERATIONS INC - AREA WIDE
AQUIFER EXEMPTION
APPLICATION
JODY FIELD WELLS

#### Figure - AE.02





#### Figure - AE.03

RAMBOLL US CONSULTING, INC. A RAMBOLL COMPANY

RAMBOLL

0 Shut-In Well Location Parcel Boundaries 0

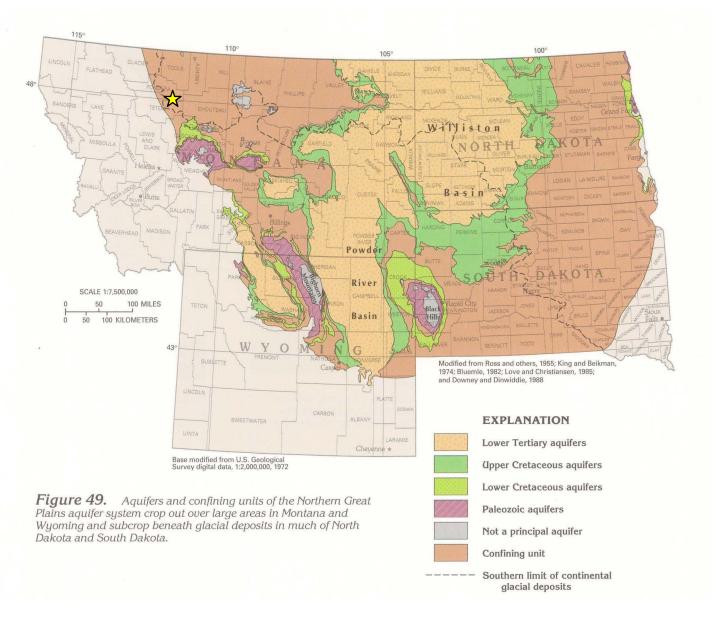
Aquifer Exemption Area

**MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS** 

**EXEMPTION AREA** 

1,000 2,000 ☐ Feet

KEY MAP (not to scale)



Geohydrology of the Madison and Associated Aquifers in Parts 🗙 Approximate Site Location of Montana, North Dakota, South Dakota, and Wyoming

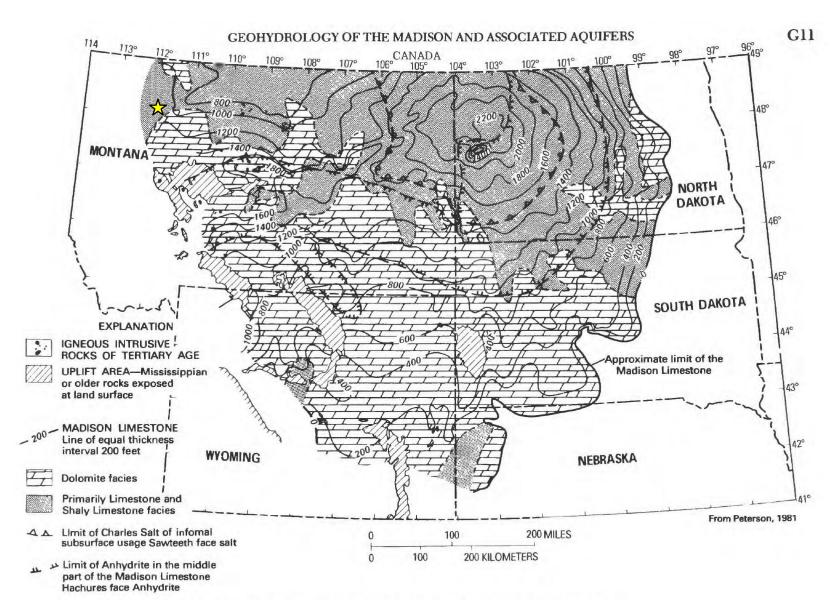
By Joe S. Downey

Geology and Hydrology of the Madison Limestone and Associated Rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming

**AQUIFERS AND CONFINING UNITS OF THE NORTHERN GREAT PLAINS AQUIFER SYSTEM MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS** 

#### **Attachment H FIGURE AE.04**





Geography of the Madison and Associated Aquifers in Parts of 🛧 Approximate Site Location Montana, North Dakota, South Dakota, and Wyoming

By Joe S. Downey

Geology and Hydrology of the Madison Limestone and Associated Rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming

**NORTHERN GREAT PLAINS AQUIFER SYSTEM -MADISON FORMATION THICKNESS MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS** 

#### **Attachment H FIGURE AE.05**





#### Well Location

- Active Injection
- P&A Approved
- Shut In
- O Dry Hole
- Oil

Cross Section

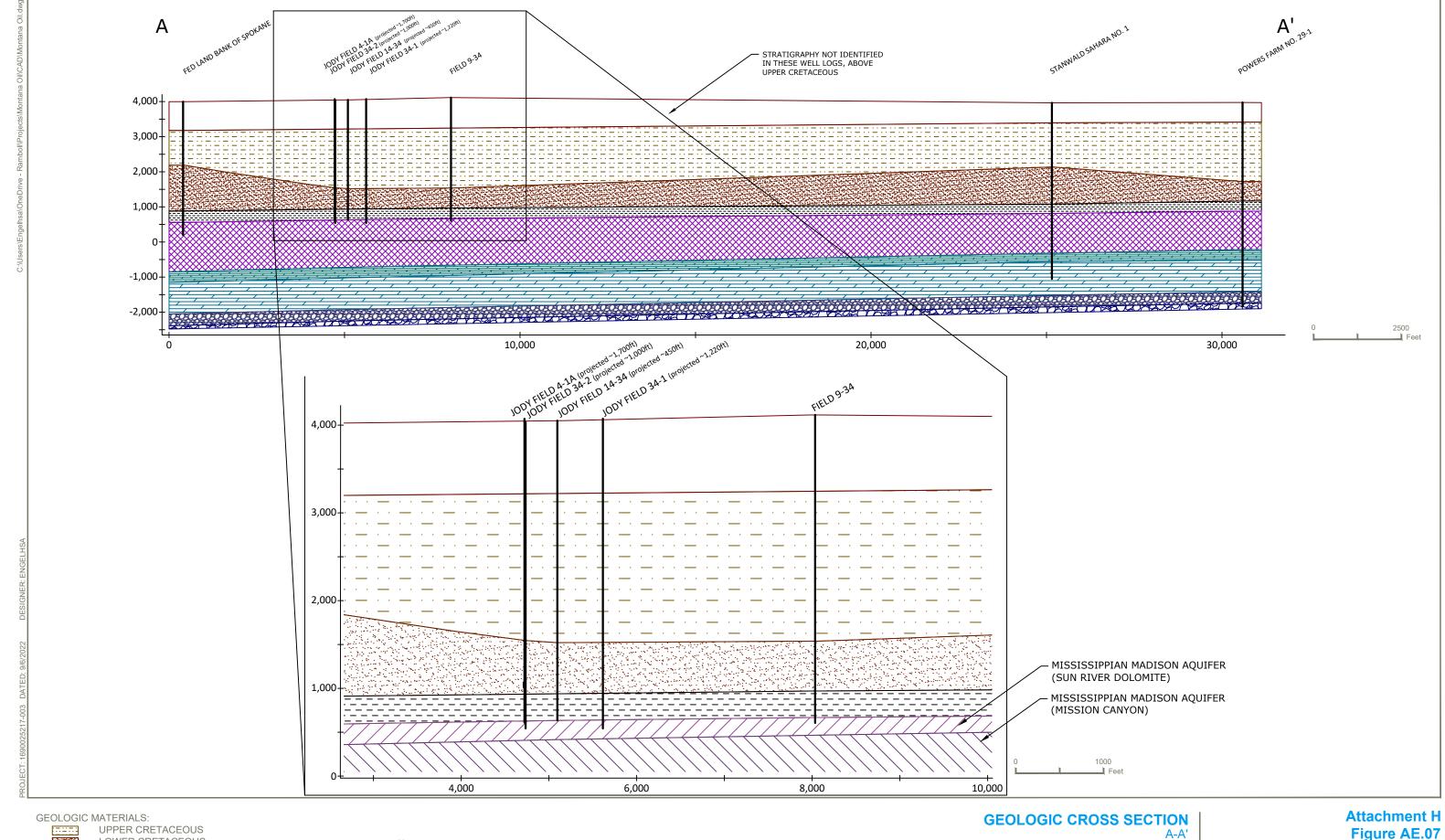
Aquifer Exemption Areas

#### **GEOLOGIC CROSS SECTION LOCATION**

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS

#### Attachment H Figure AE.06





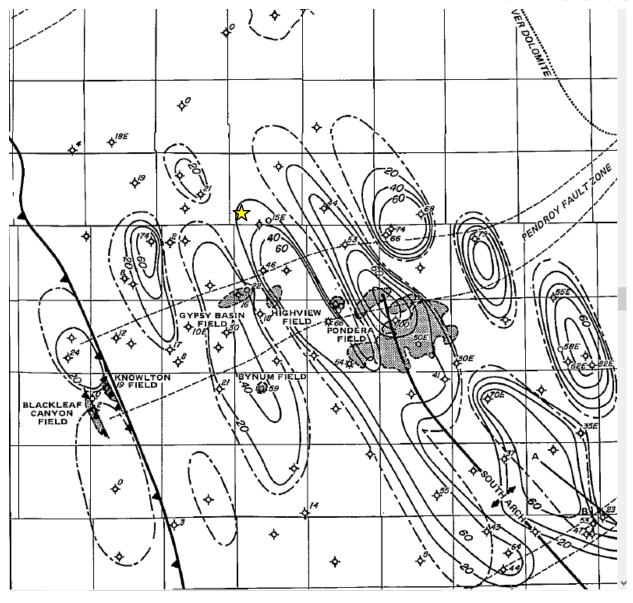
LOWER CRETACEOUS JURASSIC ELLIS GROUP MISSISSIPPIAN MADISON AQUIFER DEVONIAN - THREE FORKS FORMATION DEVONIAN - DUPEROW AQUIFER CAMBRIAN PRE-CAMBRIAN

- 1. 1X Vertical Exaggeration
- 2. Stratigraphy interpolated and extrapolated from well logs within ~2,000ft of cross section line A-A'; using 3D visualization software, Earth Volumetric
- 3. Some wells are projected to the cross section line, projection distance is as identified on this figure (behind well name).

MONTALBAN OIL AND GASOPERATIONS INC AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS

#### Figure AE.07





Pasternack, Ira, Nature and Distribution of Mississippian Sun River Dolomite Porosity, West Flan of the Sweetgrass Arch, Northwestern Montana, August 16, 1988



#### SUN RIVER DOLOMITE POROSITY ISOPACH MAP

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS

#### Attachment H FIGURE AE.08



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Era		tem, Series,	and						Hydrologi			
$\rightarrow$	oth	ner subdivisio			er River Basin ng and Montana)	(Monta	<b>ston Basin</b> na, North Dakota, South Dakota)	R	ASA study <sup>5</sup>		nis report	Principal lithology
		Quaternary		Į.	Illuvium	Alluvi	um and glacial deposits	T				
-		Pliocene	L				acposits		Nextestestest	N.I.	ra forefrontest	
zoic		Miocene	Upper						Not included in aquifer system	i	ot included n aquifer system	
Cenozoic	Tertiary	Oligocene	er	White F	River Formation		White River Formation or Group					
	-	Eocene	Lower	Wasa	tch Formation						Lower Tertiary	Sandstone, some siltstone
		Paleocene		Fort Ur	nion Formation	Fort Union	Formation or Group		Upper Cretaceous		aquifers	Sandstone, some coal
				Land	e Formation	Hell C	Creek Formation		aquifer		Upper	Sandstone, some
				Fox Hi	Ils Sandstone		Hills Sandstone				Cretaceous aquifers	claystone, siltstone and coal
				Lev	vis Shale							
				Mesav	erde Formation	P	ierre Shale					
			Jer	Ste	eele Shale							Shale, some chalk,
			Upper	Co	ody Shale 1		rara Formation arlile Shale	-	Confining		Confining	some bentonite.
	,	Cretaceous					TO STATE OF THE ST	-	layer		unit	Minor sandstone
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				1/4	owry Shale		owry Shale	-				Shale
ZOIC			_		ly Sandstone	-	Dakota Sandstone 2	-			235000-00	Sandstone
Mesozoic					nopolis Shale		Il Creek Shale	-				Shale
ž			e	mem	Fall River		Fall River Sandstone		Lower Cretaceous		Lower Cretaceous	Silate
			Lower	Inyan	Formation	Inyan	Fuson Formation		aquifer		aquifers	Sandstone. Minor
				Kara Group	akota Formation	Kara Group	Lakota Formation	system		system		conglomerate and silty shale
				Morris	on Formation	Morri	son Formation	S		S		Shale and silty shale
		Jurassic		0 1	F .: 3/	Swif	t Formation 3/	er		er		with interbedded
		Julassic		Sundar	nce Formation 3		n Formation 3/	aquifer		aquifer		sandstone
					Spring Formation	Piper	Formation 3	a	Confining	8		Shale and limestone
		Triassic		Chugw	rater Formation			S	layer	S		
$\neg$				Goose	Egg Formation		rfish Formation	Plains		Plains	0 0	Shale and siltstone
		Permian					kahta Limestone	4		۵	Confining unit	
		Pennsylvanian		Tensleer Sandston	Minnelusa 4 Formation	Amsden Formation	Minnelusa 4	Great	Pennsylvanian aquifer	Great		Interbedded sandstone shale and carbonate rocks. Minor anhydrite
		rennsylvanian		Amsd	en Formation	Tyler Formation	Formation	hern	system	hern		Shale and sandstone
						Big	Snowy Group	Northern	Confining layer	Northern		Shale with some sandstone
		Missississis					Charles Formation				Upper 6/	Constant delay "
		Mississippian		Madis	on Limestone	Madison Group	Mission Canyon Limestone		Mississippian aquifer		Paleozoic aquifers	Limestone, dolomite, and minor anhydrite
200						C. Jup	Lodgepole				aquirers	
302(							Limestone					
Paleozoic				Darb	y Formation	Bakk	en Formation					Shale and siltstone
		Devonian			equivalents		Forks Formation through ern Formation		Confining layer		Confining unit	Shale, shaly limestone, some evaporite beds and salt
		Silurian					ike Formation					Shaly limestone
				Diaba	Whitewood		wall Formation					Limestone, shaly limest
				Bighorn Dolomite			iver Formation					Limestone and dolomit
		Ordovician		Harding Sandstor			peg Formation or Group		Cambrian-		Lower 6	Shale, sandstone, and shaly limestone
								-	Ordovician aquifer		Paleozoic aquifers	
				Galla	tin Limestone				aquiter		aquiioi3	Sandstone, dolomitic li
		Cambrian		Gros Ve	entre Formation	Deady	wood Formation					stone, and shale
				Flathe	ad Sandstone							Sandstone

Locally extends into Upper Cretaceous
 Included in Lower Cretaceous aquifers of this report, where permeable
 Included in Upper Paleozolic aquifers of this report, where permeable
 Included in Upper Paleozolic aquifers of this report, where permeable
 Not differentiated in figure 49

**Figure 50.** Numerous geologic units are part of the Northern Great Plains aquifer system, but only beds of sandstone and carbonate rocks form aquifers. The gray areas represent missing rocks.

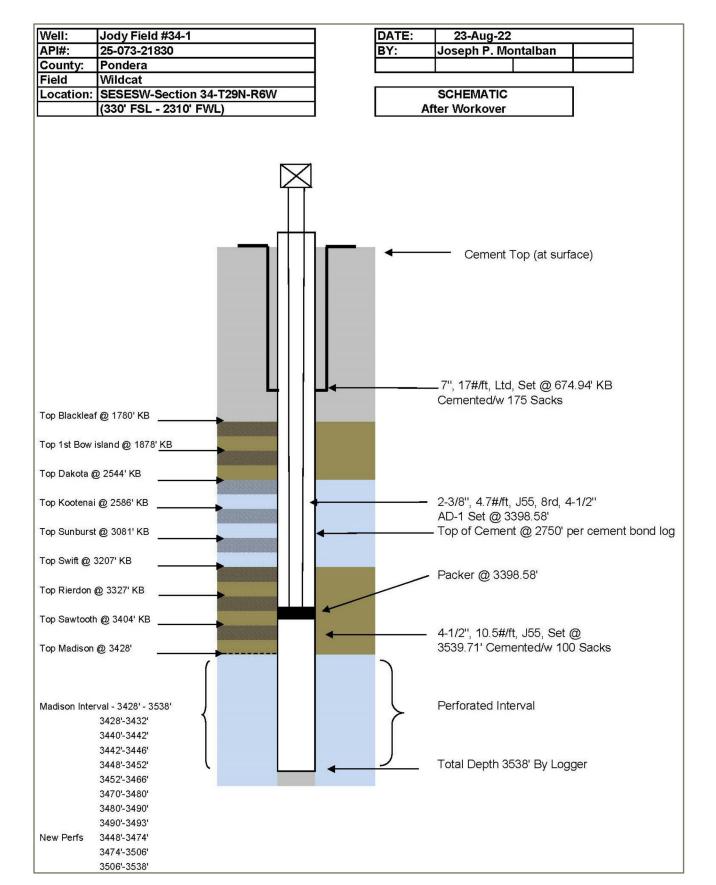
Ground Water Atlas of the United States, Montana, North Dakota, South Dakota, Wyoming HA 730-I

#### **NORTHERN GREAT PLAINS AQUIFER SYSTEM -STRATIGRAPHIC COLUMN**

**MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS** 

#### **Attachment H** Figure AE.09





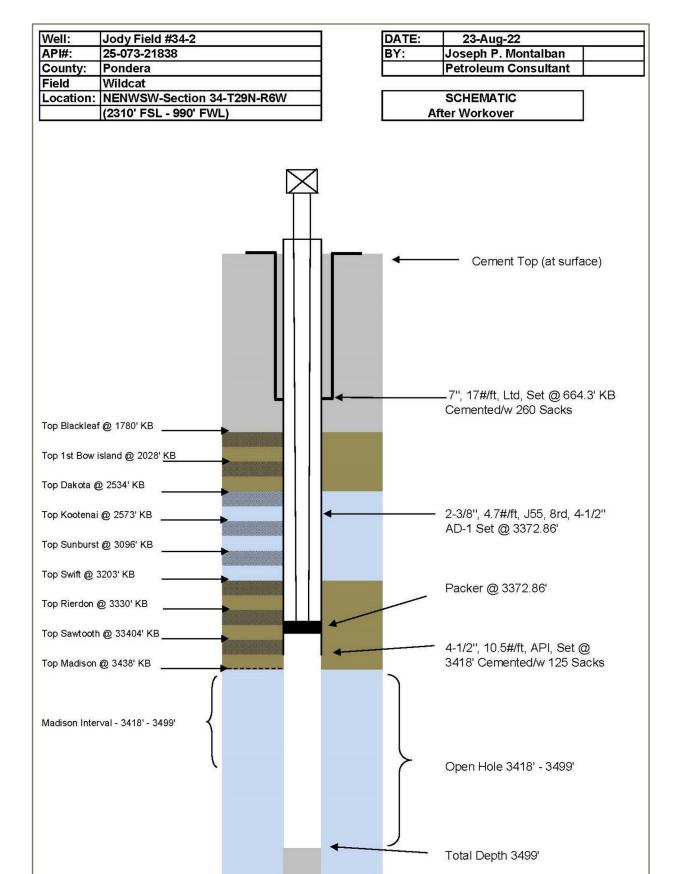


#### WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-1

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS









#### WELL SCHEMATIC DIAGRAM WELL JODY FIELD 34-2

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS





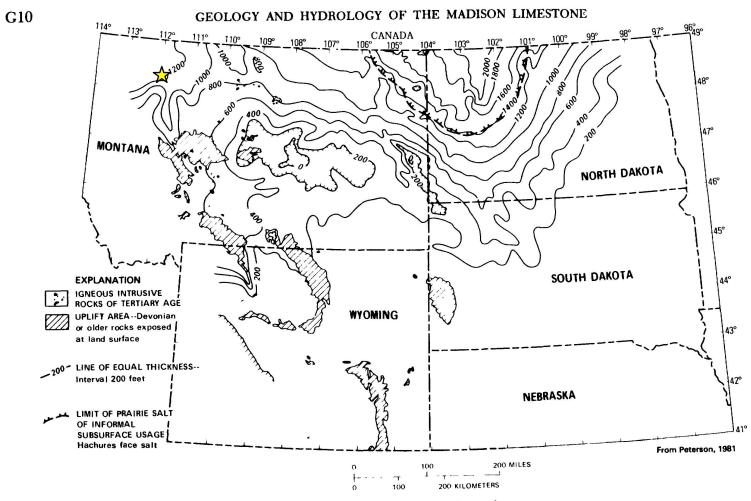


FIGURE 9. - Thickness of Devonian rocks.

Geohydrology of the Madison and Associated Aquifers in Parts Approximate Site Location of Montana, North Dakota, South Dakota, and Wyoming

THICKNESS OF UNDERLYING DEVONIAN **CONFINING LAYER IN THE AQUIFER EXEMPTION AREA** 

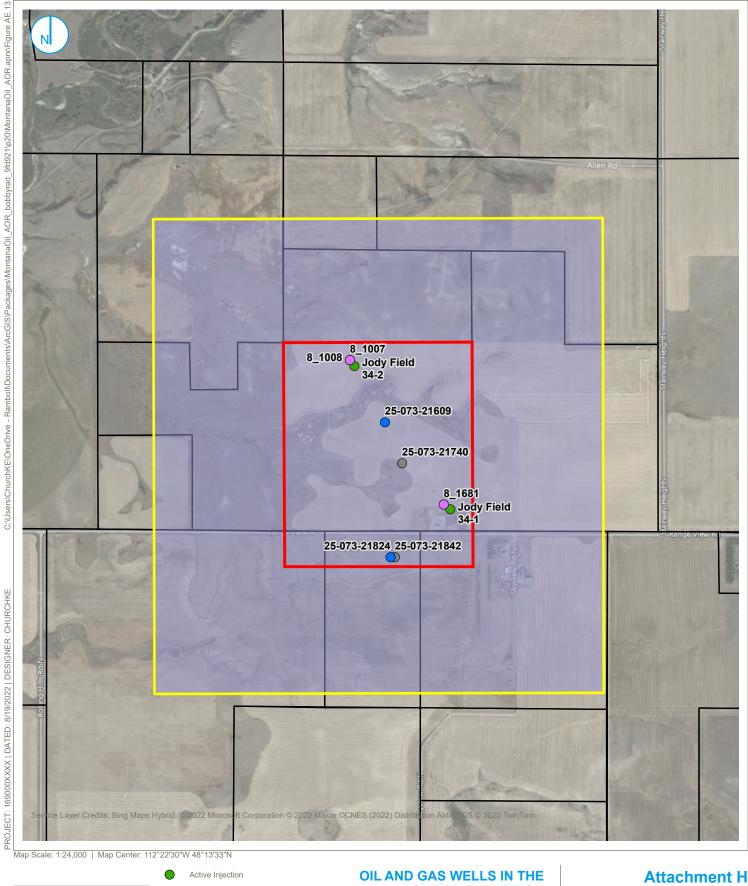
> **MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS**

By Joe S. Downey

Geology and Hydrology of the Madison Limestone and Associated Rocks in parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming







### Active Injection P&A - Approved Shut In OIL AND GAS WELLS IN THE AQUIFER EXEMPTION BOUNDARY

Area of Review

Aquifer Exemption Area

KEY MAP (not to scale)

Aquifer Exemption Location

Parcel Boundaries

Area- Wide UIC

MONTALBAN OIL AND GAS
OPERATIONS INC - AREA WIDE
AQUIFER EXEMPTION APPLICATION
JODY FIELD WELLS

1,000

2,000

\_ Feet

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY

RAMBOLL

Figure AE.13

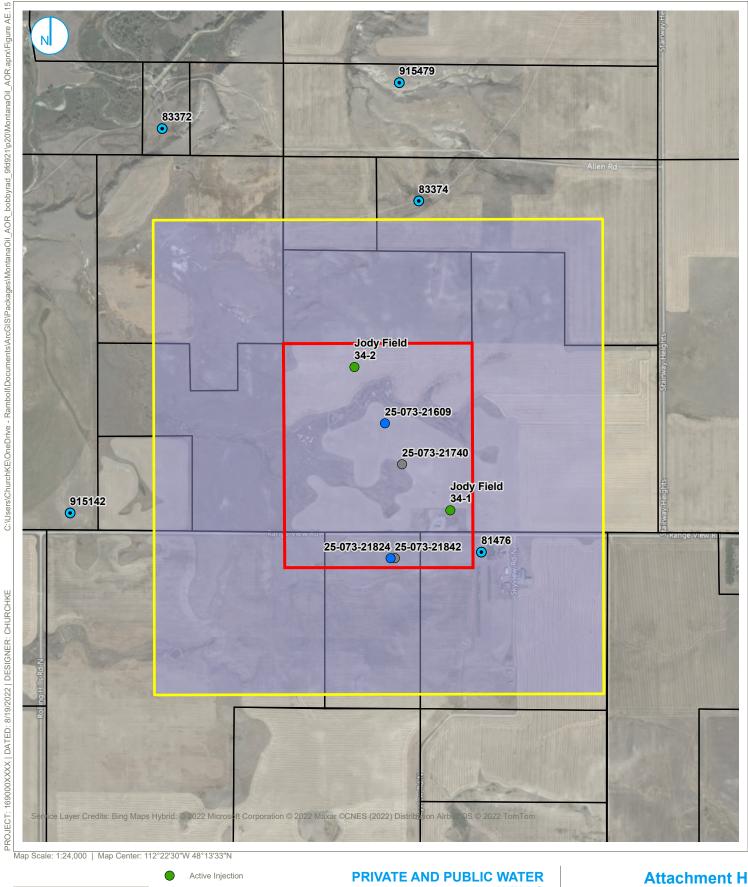
#### CountyLines 0 - 1,000 people per sq mi 1,000 - 8,400 people per sq mi 8,400 - 15,800 people per sq mi 15,800 - 24,000 people per sq mi 24,000 - 629,000 people per sq mi KEY MAP (not to scale)

**MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE AQUIFER EXEMPTION APPLICATION JODY FIELD WELLS** 

#### 22 Miles

#### Figure AE.14





### Active Injection PRIVATE AND PUBLIC WATER P&A - Approved WELLS Shut In

KEY MAP (not to scale)

Water Well Location

Parcel Boundaries

Area- Wide UIC

Area of Review

Aquifer Exemption Area

1,000 2,000 Feet

MONTALBAN OIL AND GAS OPERATIONS INC - AREA WIDE

**JODY FIELD WELLS** 

**AQUIFER EXEMPTION APPLICATION** 

#### Attachment H Figure AE.15



#### **Privileged and Confidential**

#### **EXHIBIT A**

Water Quality Analyses Wells Jody Field 14-34 and 4-1



#### ANALYTICAL SUMMARY REPORT

March 11, 2009

Patrick Montalban Altamont Oil & Gas Inc PO Box 488 Cut Bank, MT 59427

Workorder No.: B09030751

Project Name:

Permit

Energy Laboratories Inc received the following 1 sample for Altamont Oil & Gas Inc on 3/10/2009 for analysis.

Test Sample ID Client Sample ID Receive Date Matrix Collect Date B09030751-001 SESW-Section 34-T29N-03/05/09 0:00 03/10/09 Aqueous Solids, Total Dissolved R6W, Jody Fields #14-34

Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By



#### LABORATORY ANALYTICAL REPORT

Client:

Altamont Oil & Gas Inc

Project:

Permit

Lab ID:

B09030751-001

Client Sample ID: SESW-Section 34-T29N-R6W, Jody Fields #14-34

Report Date: 03/11/09

Collection Date: 03/05/09

DateReceived: 03/10/09

Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES Solids, Total Dissolved TDS @ 180 C	5440	mg/L		10		A2540 C	03/10/09 16:24 / afb



Client: Altamont Oil & Gas Inc

Project: Permit

Report Date: 03/11/09

Work Order: B09030751

Company Compan									
Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C		ARVEVA.			<u> </u>			Batch: TD	S090310A
Sample ID: MBLK2	Method Blank				Run: CPA	124S_090310B		03/10	0/09 16:23
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	10						
Sample ID: LFB2	Laboratory For	tified Blank			Run: CPA	124S_090310B		03/10	0/09 16:23
Solids, Total Dissolved TDS @ 180 C	1090	mg/L	10	99	90	110			9
Sample ID: B09030751-001A MS	Sample Matrix	Spike	Na.		Run: CPA	124S_090310B		03/1	0/09 16:24
Solids, Total Dissolved TDS @ 180 C	7770	mg/L	10	101	80	120			
Sample ID: B09030751-001A MSD	Sample Matrix	Spike Duplicate	*		Run: CPA	124S_090310B		03/1	0/09 16:25
Solids, Total Dissolved TDS @ 180 C	7770	mg/L	10	101	80	120	0.1	20	

### **Energy Laboratories Inc** Workorder Receipt Checklist

#### Altamont Oil and Gas Inc

309030751	

Login completed by: Krystal McDonald Date and Time Received: 3/10/2009 11:15 AM Reviewed by: Denise Ruby Received by: Ig Reviewed Date: 3/10/2009 12:55:00 PM Carrier name: Std US Mail Shipping container/cooler in good condition? Yes 🗸 No 🖂 Not Present [ Custody seals intact on shipping container/cooler? Yes 🖂 No 🖂 Not Present [7] Custody seals intact on sample bottles? Yes 🗌 No 🗍 Not Present 🗸 Chain of custody present? Yes 🗸 No 🗌 Chain of custody signed when relinquished and received? Yes 🗸 No 🗆 Chain of custody agrees with sample labels? Yes V No 🖂 Samples in proper container/bottle? Yes 🗸 No 🗆 Sample containers intact? Yes 🗸 No 🗌 Sufficient sample volume for indicated test? Yes 🗸 No 🗆 All samples received within holding time? Yes 🗸 No 🗌 Container/Temp Blank temperature: 15°C No VOA vials submitted

Yes  $\square$ 

Yes 🗍

No 🖂

No 🗌

Not Applicable 🗸

Contact and Corrective Action Comments:

Water - VOA vials have zero headspace?

Water - pH acceptable upon receipt?

None

Hical Request Record  Sample Origin  Page 1 of 1  State: MONTANA Sampler Compliance:  FAX: (406) 873–2835  FAX: (406) 873–8835  FAX: (4	Totally Dissolved Sqlids X	Reinquiend by (print)  Carla Barringer
Company Name:  Company Name:  ALTAMONT OIL & GAS, INC  Report Mall Address:  PO BOX 488  CUT BANK MT 59427  Invoice Address:  SAME AS ABOVE  Special Report/Formats - ELI must be notified  Bycial Report/Formats - ELI must be notified  Special Report/Formats - ELI must be notified  Bycial Report/For	EIDENTIFICATION Collection Collection MATRIX CTION 14-34 3/5/09	Custody Record MUST be Signed

#### ANALYTICAL SUMMARY REPORT

December 05, 2007

Patrick Montalban

Altame on Oil & Gas Inc

PO B 0×488

Cutbank MT 59427

Workorder No.: B07120154

Project Name: Altamont Jody Fields

Energy laboratories Inc received the following 1 sample from Altamont Oil & Gas Inc on 12/4/2007 for analysis.

Samp lelD

Client Sample ID

Collect Date Receive Date

Matrix

Test

B07120154-001 #4 - 1 Well

12/03/07 12:00 12/04/07

Aqueous

Conductivity

Resistivity

Salinity

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except ifnoted in report comments or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By

#### LABORATORY ANALYTICAL REPORT

Clie nt

Altamont Oil & Gas Inc

Project:

Altamont Jody Fields

Lab ID

B07120154-001

Clie ntSample ID: #4 - 1 Well

Report Date: 12/05/07

Collection Date: 12/03/07 12:00

DateReceived: 12/04/07

Matrix: Aqueous

Anal ys:s	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES	1111				TO THE STREET OF THE STREET		
Salira ity	4.69			0.10		Calculation	12/05/07 08:36 / klc
Conductivity	8480	umhos/cm		1		A2510 B	12/04/07 12:01 / kh
Resistivity @ 68 F	1.18	ohm-m		0.04		E120.1	12/05/07 14:45 / klc



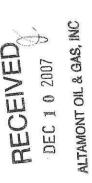


#### QA/QC Summary Report

Client: Altamont Oil & Gas Inc Projec 1: Altamont Jody Fields

Report Date: 12/05/07 Work Order: B07120154

Analyte	Result Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B	1111 (0.500)	***************************************		and the second			Batch: PHSC	071204
Sample ID: PHC1070910A	Laboratory Control Sample			Run: ORIO	N555A_071204A		12/04	/07 08:5
Conductivity	157 umhos/cm	1.0	103	90	110			
Sample ID: PHC1070810A	Laboratory Control Sample			Run: ORIO	N555A_071204A		12/04	/07 08:5
Conductivity	5120 umhos/cm	1.0	102	90	110			
Sample ID: B07120150-001ADUP	Sample Duplicate			Run: ORIO	N555A 071204A		12/04	/07 11:5
Conductivity	907 umhos/cm	1.0			THE PART OF THE PA	0.5	10	



#### ENERGY LABORA TORIES

## Energy Laboratories Inc Workorder Receipt Checklist

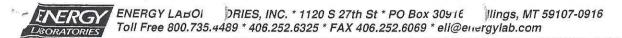
#### Altamont Oil and Gas Inc

B07120154

Login completed by: Eric L. Frank Reviewed by: Staci Fread			Received: 12/4/2007 ceived by: elf	9:15 AM	
R eviewed Date: 12/4/2007 8:02:40 PM			rier name: UPS NDA		
Shipping container/cooler in good condition?	Yes 🗹	No 🔲	Not Present		
Custody seals intact on shipping container/cooler?	Yes	No 🗌	Not Present 🗸		
Cuslody seals intact on sample bottles?	Yes	No 🗌	Not Present 🗸		<i>\$</i> 5
Chain of custody present?	Yes	No 🗹		-	
Chain of custody signed when relinquished and received?	Yes	No 🗹			ALTAMONT OIL & GAS, INC
Chain of custody agrees with sample labels?	Yes	No 🗹		2	# %
Samples in proper container/bottle?	Yes 🗸	No 🗌		円 =	N N
Sample containers intact?	Yes 🗸	No 🗌		W W	AMO N
Sufficient sample volume for indicated test?	Yes 🔽	No 🗌		a -	ALT.
All samples received within holding time?	Yes 🗸	No 🗌			
Conlainer/Temp Blank temperature in compliance?	Yes	No 🗹	14°C		
Water - VOA vials have zero headspace?	Yes [	No 🗌	No VOA vials submitted	$\checkmark$	
Water - pH acceptable upon receipt?	Yes	No 🔲	Not Applicable		

Contact and Corrective Action Comments:

Letter of instruction provided from client.



#### LABORATORY ANALYTICAL REPORT

Client:

Altamont Oil & Gas Inc

Project:

Altamont Jody Fields

Lal ID:

B07120154-001

Client Sample ID: #4 - 1 Well

Report Date: 12/07/07

Collection Date: 12/03/07 12:00

DateReceived: 12/04/07

Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Salhity	4.69			0.10		Calculation	12/05/07 08:36 / klc
Conductivity	8480	umhos/cm		1		A2510 B	12/04/07 12:01 / kh
Resistivity @ 68 F	1.18	ohm-m		0.04		E120.1	12/05/07 14:45 / klc

#### ANALYTICAL SUMMARY REPORT

January 03, 2008

Patrick Montalban

Altamont Oil & Gas Inc

PO Box 488

Cutbank, MT 59427

Workorder No.: B07120154

Project Name: Altamont Jody Fields

Energy Laboratories Inc received the following 1 sample from Altamont Oil & Gas Inc on 12/4/2007 for analysis.

Sample ID	Client Sample ID	<b>Collect Date</b>	Receive Date	Matrix	Test
B0712 <b>O</b> 154-00 <sup>-</sup>	1 #4 - 1 Well	12/03/07 12:00	12/04/07	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Anions by ion chromatography Conductivity Specific Gravity pH
	e e				Preparation, Dissolved Filtration Resistivity ROF report format Salinity Solids, Total Dissolved - Calculated

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except if noted in report comments or the Case Narrative.

If you have any questions regarding these tests results, please call.

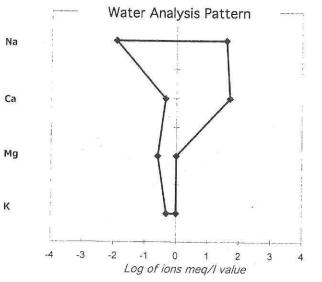
Report Approved By:



Company: Altamont Oil & Gas Inc	Date: 1/3/2008	
Field: Altamont Jody Fields	Sample Date: 12/3/2007	
County: 0	Formation :	en en en en en en en en en en en en en e
Location: #4 - 1 Well	Rock Type :	
Lab ID: B07120154-001	Depth :	
Comments :	Depth :	

#### **Water Analysis Report**

			-	•	
CATIONS Potassium Socium Calcium Magnesium Irom Barium Strontium SUM +	mg/l 81 1,970 45 48 nd nd	meq/l 2.07 85.69 2.25 3.95 nd nd nd		ANIONS Sulfate Chloride Carbonate Bicarbonate Bromide Organic Acids Hydroxide SUM -	mg/l         meq/l           25         0.52           1,380         38.92           <1         0.00           3,120         51.15           nd         nd           nd         nd           ≤1         0.00           4,525         90.59
Solids			200 March 2007	Sample Conditions	
Total Dissolved Solids @180°C Total Solids, Calculated Total Solids, NaCl equivalents Chloride as NaCl NaCl, % of Total Dissolved Solids Accuracy		nd mg/l 5,109 mg/l 4,298 mg/l 2,275 mg/l 44.52 % -2.23 Sigma	s.	pH, s.u. (Field) Sample Pressure Surface Temp Downhole Temp Ionic Strength	7.50 s.u. 14.70 psia 70.00 °F na °F 0.096 µ
Dissolved Gases					
Bisulfide ion		nd		District 10	
Hydrogen Sulfide				Dissolved O <sub>2</sub> , aq	nd
Total Sulfide		nd nd		Total CO <sub>2</sub> , aq	2,427 mg/l
Other Properties				¥	9
Calcium Hardness as CaCO <sub>3</sub>		112 mg/l		Specific Gravity	1.007 measured
Magnesium Hardness as CaCO <sub>3</sub>		198 mg/l		Specific Gravity	1.005 calculated
Total Hardness as CaCO <sub>3</sub>	<del>7 15</del>	310 mg/l		Resistivity, 68°F Conductivity 25°C	1.18 ohm-m 8,480 umhos/cm
Microbiological				Scaling Conditions	
Sulfate Reducing nd			- William - We Common - Common	Calcium Carbonate	CaCO <sub>3</sub> +
Aerobic Bacteria nd				Calcium Sulfate	CaSO <sub>4</sub>
				Barium Sulfate	FOR THE STATE OF T
				Strontium Sulfate	BaSO <sub>4</sub> - SrSO <sub>4</sub> -
Water A	Analysis Pat	tern	CI	Substanti Sunate	RECEIVE!



HCO <sub>3</sub>	COMPOUN
	NaHCO3
	NaCl
	Mg(HCO3)2
SO <sub>4</sub>	Ca(HCO3)2
	Na2SO4

CO<sub>3</sub>

obable Mineral Re	sidue, Dry	V
Calculation	error = -3.7 %LTAMONT OIL & GA	S, I
MPOUND	mg/I	500-01.0 Tab
HCO3	3,705	
CI	2,275	
(HCO3)2	289	
(HCO3)2	182	
2504	37.0	

Note: nd denotes 'Not Determined'

Probable Mineral Residue, Dry

01/13/00 vEL1.0carney/standish



Client: Altamont Oil & Gas Inc

Revised Date: 12/28/07 Report Date: 12/07/07

Work Order: B07120154

Project: Altamont Jody Fields

Analy te	Result	Units		RL	%REC	Low Limit	High Limit	RPD R	PDLimit Qu	al
Metho d: A2320 B								Е	atch: ALK0712	220A
SampleD: MBLK	Method Blank					Run: MISC	-WC_071220L		12/20/07 1	0:00
Alkalin ity, Total as CaCO3	2	mg/L		1					, "	
Bicarb o nate as HCO3	2	mg/L		. 1						
Carbo nale as CO3	ND	mg/L		1.						
Hydro×ide as OH	ND	mg/L		1						
SampleD: LCS	Laboratory Co	ontrol Sam	ple			Run: MISC	C-WC_071220L		12/20/07 1	0:15
Alkalin ity, Total as CaCO3	97.7	mg/L		1.0	96	90	110			
Sample D: B07121500-001ADUP	Sample Dupli	cate				Run: MISC	C-WC_071220L		12/20/07 1	1:00
Alkalin ity, Total as CaCO3	2080	mg/L		1.0				4.5	20	
Bicarb onate as HCO3	2540	mg/L		1.0				4.5	20	
Carbonale as CO3	ND	mg/L		1.0				0.0	20	
Hydro×ide as OH	ND	mg/L		1.0				0.0	20	
Method: A2510 B	1,41,41,41,41,41,41,41,41,41,41		***************************************					Ва	tch: PHSC0712	204A
Sample D: PHC1070910A	Laboratory Co	ontrol Sam	ple			Run: ORIO	DN555A_071204A	Č.	12/04/07 0	08:58
Conductivity	157	umhos/cn	n .	1.0	103	90	110			
Sample D: PHC1070810A	Laboratory Co	ontrol Sam	nple			Run: ORIO	ON555A_071204A		12/04/07 (	08:59
Conductivity	5120	umhos/cn	n	1.0	102	90	110			
Sample D: B07120150-001ADUP	Sample Dupli	cate				Run: ORIG	ON555A_071204A	1	12/04/07 1	11:57
Conductivity	907	umhos/cn	n	1.0				0.5	10	
Method: A4500 H							Analytica	al Run: OF	RION555A_071:	220B
Sample ID: PHC1071130A	Initial Calibrat	tion Verific	ation St	tandard					12/20/07 (	08:30
рН	7.01	s.u.		0.10	100	98	102			
Method: A4500 H				<b>1916 2</b> 910.110.		0.270000	***************************************	Ва	atch: PHSC071	220A
Sample  D: B07121618-003ADUP	Sample Dupli	icate				Run: ORI	ON555A_071220E	3	12/20/07 1	17:28
Hq	7.76	s.u.		0.10				1.2	10	



#### QA/QC Summary Report

Client: Altamont Oil & Gas Inc

Revised Date: 12/28/07

Report Date: 12/07/07

Work Order: B07120154

Project: Altamont Jody Fields

Analy te		Result	Units		RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	E200.7									Bat	ch: 30333
Samp le ID:	MB-30333	Method Blank					Run: ICP2	02-B_071227A		12/27	7/07 11:51
Calciu m		0.04	mg/L		0.009				10		
Magnesium		ND	mg/L		0.01						
Potassium		0.03	mg/L		0.02						
Sodium		ND	mg/L		0.1		*				
Sample ID:	B07121574-001BMS2	Sample Matrix	Spike				Run: ICP2	02-B_071227A		12/27	7/07 12:06
Calciu m		92.7	mg/L		1.0	97	70	130			
Magnesium		67.5	mg/L		1.0	101	70	130			
Potassium		53.0	mg/L		1.0	103	70	130			
Sodium		59.6	mg/L		1.0	103	70	130			
Sample ID:	B07121574-001BMSD2	Sample Matrix	Spike Du	plicate			Run: ICP2	02-B_071227A		12/2	7/07 12:09
Calcium		93.3	mg/L		1.0	98	70	130	0.7	20	
Magnesium		67.3	mg/L		1.0	100	70	130	0.3	20	
Potassium		53.2	mg/L		1.0	104	70	130	0.4	20	
Sodium		60.2	mg/L		1.0	105	70	130	1.0	20	
Method:	E200.7	18 20 20 20 20 20 20 20 20 20 20 20 20 20						Anal	ytical R	un: ICP202-B	_071227A
Sample ID:	QCS	Initial Calibration	on Verific	ation Sta	ndard					12/2	7/07. 10:09
Calcium		50.1	mg/L		1.0	100	90	110			
Magnesium		49.0	mg/L		1.0	98	90	110			9
Potassium		50.7	mg/L		1.0	101	90	110			
Sodium		50.5	mg/L		1.0	101	90	110			





Altamont Oil & Gas Inc

Project: Altamont Jody Fields

#### QA/QC Summary Report

Revised Date: 12/28/07

Report Date: 12/07/07

Work Order: B07120154

Analy te		Result	Units	RL	%REC	Low Limit	High Limit	RPD RP	DLimit	Qual
Method:	E300.0						An	alytical Run:	IC202-B	_071221A
Samp le ID:	ICV	Initial Calibration	on Verification S	andard					12/21	/07 10:02
Chlori de		25.2	mg/L	1.0	101	90	<b>1</b> 10			, , , , , ,
Sulfate		101	mg/L	1.0	101	90	110			
Method:	E300.0		· · · · · · · · · · · · · · · · · · ·	15-2000	A 10 A 10 A 10 A 10 A 10 A 10 A 10 A 10		a valvarión	et and Survey	Batch:	R104331
Sample ID:	ICB	Method Blank				Run: IC202	2-B_071221A		12/21	/07 10:14
Chloride		0.04	mg/L	0.03						10.17
Sulfate		ND	mg/L	0.06						
Sample ID:	LFB	Laboratory For	tified Blank			Run: IC202	2-B_071221A		12/21	/07 10:26
Chloride		9.27	mg/L	1.0	92	90	110			
Sulfate		37.2	mg/L	1.0	93	90	110	3		
Sample ID:	B07120154-001AMS	Sample Matrix	Spike			Run: IC202	2-B_071221A		12/21	/07 11:35
Chloride	05 19	2580	mg/L	1.5	96	90	110			
Sulfate		4890	mg/L	3.1	97	90	110			
Sample ID:	B07120154-001AMSD	Sample Matrix	Spike Duplicate			Run: IC202	2-B_071221A		12/21	/07 11:47
Chloride		2560	mg/L	1.5	94		110	0.9	20	
Sulfate		4850	mg/L	3.1	97	90	110	0.8	20	

RECEIVED JAN 1 4 2008

## E nergy Laboratories Inc Workorder Receipt Checklist

#### All tamont Oil and Gas Inc

B07120154

Logincompleted by: Eric L. Frank  Reviewed by: Staci Fread  Reviewed Date: 12/4/2007 8:02:40 PM		Rec	Received: 12/4/2007 9:15 AM eived by: elf er name: UPS NDA
Shipping container/cooler in good condition?  Custody seals intact on shipping container/cooler?  Custody seals intact on sample bottles?  Chain of custody present?  Chain of custody signed when relinquished and received?  Chain of custody agrees with sample labels?  Samples in proper container/bottle?  Sample containers intact?  Sufficient sample volume for indicated test?  All samples received within holding time?	Yes	No	Not Present ☑  Not Present ☑  Not Present ☑
Container/Temp Blank temperature in compliance?  Water · VOA vials have zero headspace?  Water · pH acceptable upon receipt?	Yes  Yes  Yes  Yes	No 🔀 No 🗀	14°C  No VOA vials submitted   ✓  Not Applicable  ✓

Contact and Corrective Action Comments:

Letter of instruction provided from client.

JAN 1 4 2008 Y

PECENCE JAN 1 4 2008

115/208

Altamont Oil & Gas Inc Patrick Montalban PO Box 488 Cutbank MT 59427

Manor Frik 41

Aldanor Hick 41

Au aktely



#### LABORATORY ANALYTICAL REPORT

CIE ent:

MCR LLC

Project:

Berthelote Water Disposal

La bID:

B08042696-002

Client Sample ID: Disp System

Report Date: 05/06/08

Collection Date: 04/24/08 06:45

DateReceived: 04/25/08

Matrix: Aqueous

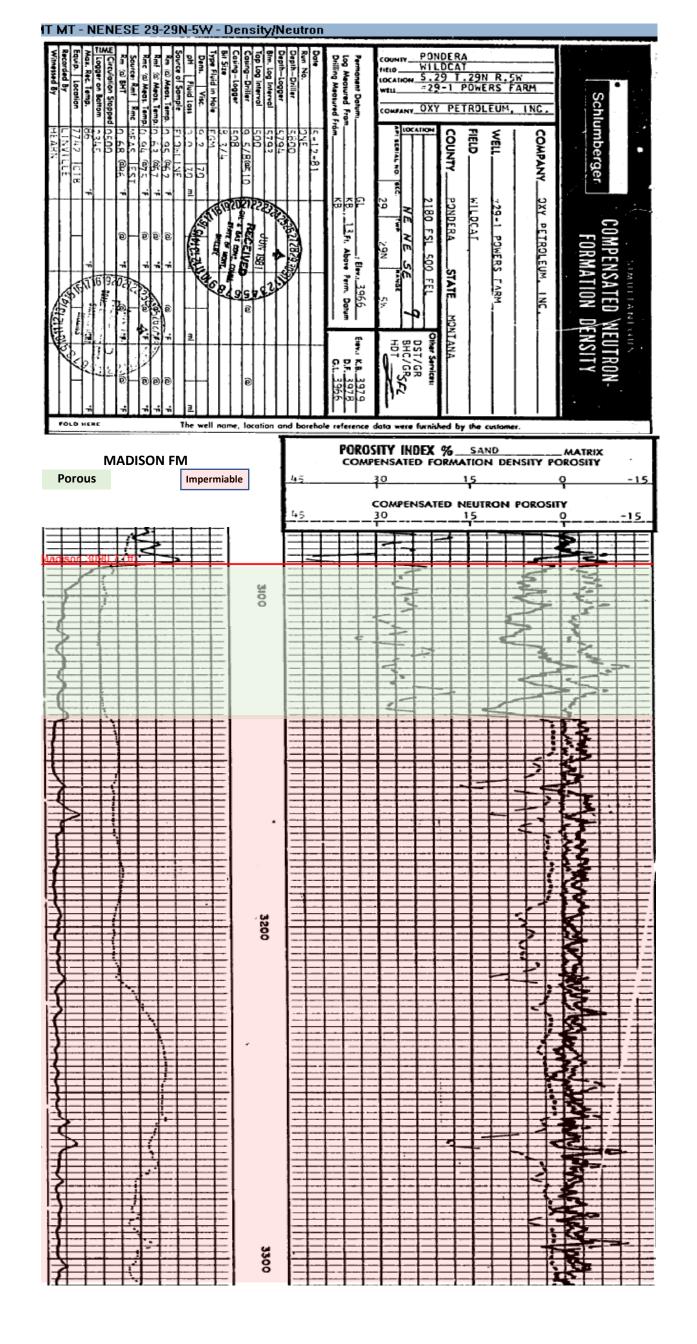
Araalyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By				
PHYSICAL PROPERTIES Solids, Total Dissolved TDS @ 180 C	3220	mg/L		10		A2540 C	04/25/08 13:39 / afb				
IN ORGANICS Allkalinity, Total as CaCO3 Sulfate	2010 159	mg/L mg/L		1 1		A2320 B E300.0	04/25/08 21:40 / kh 04/28/08 20:05 / qed				
NUTRIENTS Ni trogen, Nitrate+Nitrite as N	0.14	mg/L		0.05		E353.2	05/02/08 13:39 / bls				

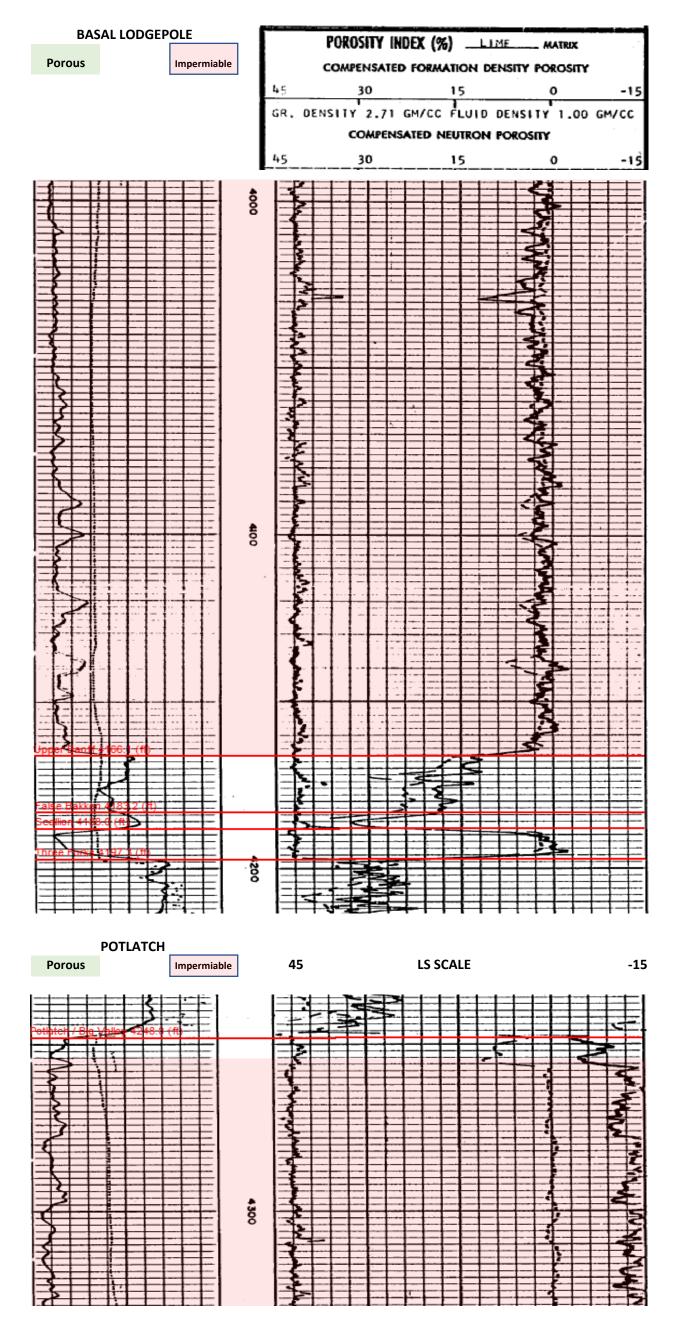
Mode South of the South of the Market Doposet)

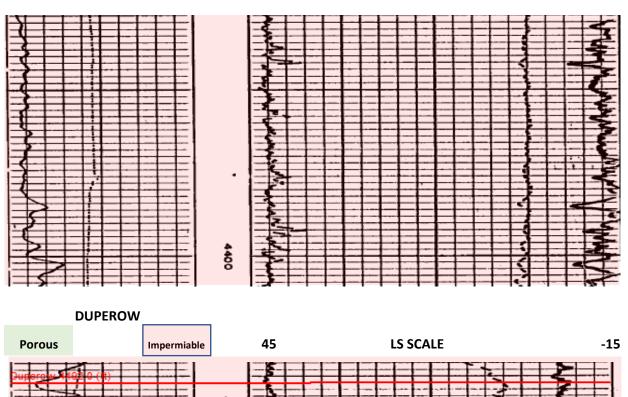
#### **Privileged and Confidential**

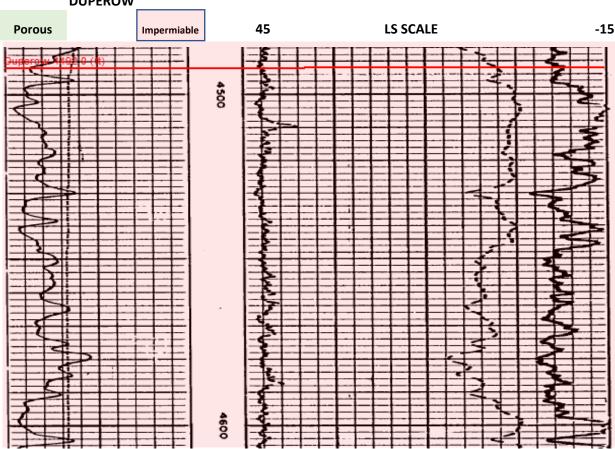
#### **EXHIBIT B**

Powers Farm 29-1 Density/Neutron Log









Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

Attachment I Existing EPA Permits (40 CFR § 144.31)



DRAFT
Privileged and Confidential

## N/A No EPA Permits to Report

Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

Attachment J
Description of Business
(40 CFR § 144.31)



Attachment J
Description of Business
(40 CFR § 144.31)

#### DRAFT Privileged and Confidential

#### **CONTENTS**

1. Montalban Oil & Gas Operations, Inc. Description of Business 2

Attachment J
Description of Business
(40 CFR § 144.31)

DRAFT
Privileged and Confidential

#### 1. MONTALBAN OIL & GAS OPERATIONS, INC. DESCRIPTION OF BUSINESS

Montalban Oil & Gas Operations, Inc. (Montalban) is located in Pondera County, Montana, approximately 90 miles north of Great Falls, Montana. Montalban has successfully operated underground injection control (UIC) wells in Pondera County for over 11 years. Montalban has applied to EPA for an Area-Wide UIC Class V permit for injection of industrial wastewater into the Mississipian Madison Aquifer, an Underground Source of Drinking Water (USDW) for which an Aquifer Exemption has been requested. The area-wide UIC permit includes initial conversion of two (2) existing Class II UIC wells to Class V UIC wells and conversion at a future date of two (2) shut-in oil and gas wells to Class V UIC Wells.

Montalban is planning to receive industrial wastewater from Montana Renewables, a renewable fuels refinery located in Great Falls, Montana. Montana Renewables is a leader in the renewable energy transition, processing renewable feedstocks (such as seed oils, used cooking oil, and tallow) into low-emission sustainable alternatives that directly replace fossil fuel products. The refinery is scheduled to commence operations in 2022, with wastewater discharge commencing the First Quarter of 2023. Permitting injection of its wastewater into the proposed Class V UIC wells will support Montana Renewables in leading Montana's energy transition.

Prepared by

Ramboll US Consulting

Denver, Colorado

1690027805

Date

October 2022

# MONTALBAN OIL & GAS OPERATIONS, INC. AREA-WIDE CLASS V UIC APPLICATION

Attachment K
Optional Additional Project
Information
(40 CFR § 144.4)



DRAFT
Privileged and Confidential

## N/A No Additional Information to Report