



Amoco Production Company
Seismic Observers Form

Party 045 Date 7 18 90
County SHERIDAN State MT. Line 0011
OAC No.

Spread Layout
Directions EAST EAST No. Fold _____
Increasing SP. No. Tr. 1 to Tr. 2
Distance 10m 0 0 500m SeisGrp Int. 10m
Tr. No.

Each Source Pattern
No. Indiv. Sources 1/4 Spacing 1/30'
In-line X-line In-line X-line
No. Moves Per Source _____ Dist. Each Move _____
In-line X-line In-line X-line

Seis's SENSOR SM-7 Type Comp. Direction
Seis's _____ Type Comp. Direction
Ref. Amoco NB# 1461 pg. _____
Amplifiers cus SGR III 50 No. Channels, Samp. Int. 2 Ms; Rec. Lth 15 Sec.
Filter _____ Hz. IPW / 2 Db/Oct; 60 Hz. Rej. OUT
low high low high In or Out

No. Seis. Per Grp. 12 = 12 Spacing 42m
Total No. No. In-line No. X-line In-line X-line

Vibrator #18 P.W. Model
Sweep: 8 To 80 Hz, 10 Drive POS
Frequency Length

SGR'S 60-TH'S 200-TH'S SGR Trucks 2-TH'S 5-TH'S
No. In Field No. In Field

Vibrator Electronic PELTON ADVANCED II
Reference Taper 500ms Mode LINEAR % 100
Reference Phase 0°

Source Point Number	General			Spread				Vibrating				Instruments			Remarks: (Additional remarks on back of sheet.)			
	START & STOP FREQ.	File Number	Time	Controller Location	Source Point Number At Seismometer Group For The Following Traces				Perp. Offset Of Source Point	Near-Seis. Offset		Number Of Vibrators	Number Of Sweeps	Vibrator Heading		Gains		
					Tr.	Tr.	Tr.	Tr.		Back	Front					Preamp.	MODE	TE TRACKS
			8:30															
5001	Noise Free	1	11:46				49					1	1	E 45 V				Crew Laying Out Noise Test + Production Line
1	8-80Hz	2	11:48															V.P. #1 is 10m WEST OF 1ST SET OF PHONES
	10-80Hz	3	11:49															** SHOT POINT DIALED IN AS 2 INSTEAD OF 5001 **
	12-48Hz	4	11:50															STATION 1 IS @ PRODUCTION FLAG 273
	12-48Hz	5	11:52															
✓	10-80Hz	6	11:54															
1	8-80Hz	7	11:56															
50	10-80Hz	8	11:59															
50		9	12:01															
51		10	12:10															1km offset (Production Flag 292)
51		11	12:14				49											1.5km offset
51	10-80Hz	12	12:19				49											2km offset
52	10-80Hz	13	12:24				49											VIBS SPACED OVER 50m
53	10-80Hz	14	12:28				49											VIBS SPACED OVER 100m
5053	Noise Free	15	12:29				49											

Note: Use separate line for each record. Make original and copy. Send original to district geophysicist. Use separate sheet for each seismic line.

Weather: Damp
Dry Ground ; Wet Rain ; Snow ; Lightning
Wind: (0-12 MPH) ; (13-24 MPH) ; (25-40 MPH)
Temperature: 60-80 °F;
Trail Conditions Clay Road

Leave Town 8:00 Leave Field _____ Expm Time _____
Arrive Field 8:20 Arrive Town _____ Down Time _____
Total Travel Time _____ Number Men Rec. 17

Daily Summary
No Profiles _____ Miles Traversed _____
Total To Date For Month
No Profiles _____ Miles Traversed _____
Observer McEvoy-Zebrowski Page 1 of _____



Amoco Production Company Seismic Observers Form

Party 045 Date 7/18/80
 County SHERIDAN State MT. Line 0211
 OAC No.

Spread Layout
 Directions EAST EAST No. Fold _____
 Increasing SP. No. Tr. 1 to Tr. 2
 Distance _____ SeisGrp. 50m
 Tr. No. Int.

Each Source Pattern
 No. Indiv. Sources 4 Spacing _____
 Inline Xline Inline Xline
 No. Moves _____ Dist. Each _____
 Per Source Inline Xline Move Inline Xline

Seis's SEMSON SM-7 Seis's _____
 Type Comp. Direction Type Comp. Direction
 Seis's _____ Ref. Amoco NB# _____ pg. _____
 Type Comp. Direction
 Amplifiers GEOSPACE SGRT 400 Samp. Int. 4 Ms. Rec. Lth. 50 Sec.
 Manuf. Model No. Channels
 Filter _____ Hz. IPW 2 Db/Oct. 60 Hz. Rej. OUT
 low high low high In or Out

No. Seis. Per Grp. 12 = 12 Spacing 13.6'
 Total No. No. Inline No. Xline Inline Xline

Vibrator F18 P.W. Sweep 8 To 96 Hz. 30 Drive 80%
 Model Frequency Length
 SGR'S 194-TV's SGR Trucks 4-TV's
 No. In Field No. In Field

Vibrator Electronic PELTON ADVANCED II
 Reference Taper 500ms Mode LINEAR % 100
 Reference Phase 0°
 Manuf. Model

General				Spread				Vibrating				Instruments				Remarks: (Additional remarks on back of sheet.)		
Source Point Number	Vib Frequency	File Number	Time	Controller Location	Source Point Number At Seismometer Group For The Following Traces				Near. Seis. Offset		Number Of Vibrators	Number Of Sweeps	Vibrator Heading	Gains			T-Track on Line	
					Tr.	Tr.	Tr.	Tr.	Perp. Offset Of Source Point	Back				Front	Preamp.			MODE
5135	Noise File	1	3:33		135		398					4	1	E	45	V	T	Tractor on Line about 260 heading West - Noise File with PDS up Vibs bumper to bumper
135	8-32	2	3:44									4	4	E	45	V		
	8-64	3	3:49															
	8-96	4	3:56															
	10-40	5	4:01															
	10-80	6	4:06															
	12-48	7	4:11															
	12-96	8	4:16															
	8-64	9	4:24														T	
	10-80	10	4:30														T	
135	12-96	11	4:35				398					4						Vib spaced over 50 m. Pause to call in Boxes START of PRODUCTION SPREAD
137	10-80	12	5:07				414					4	8	E	45	V	T	
141		13	5:17									8					T	
145		14	5:40									16					T	
149		15	5:57									16					T	
5149	Noise File	16	5:58		135		414					4	1	E	45	V		

Note: Use separate line for each record. Make original and copy. Send original to district geophysicist. Use separate sheet for each seismic line.

Weather: Dry Ground Wet Rain Snow Lightning
 Wind: (0-12 MPH) (13-24 MPH) (25-40 MPH)
 Temperature: 60-80 °F;
 Trail Conditions COUNTY ROAD

Leave Town _____ Leave Field 6:17 Expm Time _____
 Arrive Field _____ Arrive Town 6:43 Down Time _____
 Total Travel Time _____ Number Men Rec. 17

Daily Summary
 No Profiles 14 / 14
 Miles Traversed _____
 Observer McEwen ZEBROSKI

Total To Date For Month
 No Profiles _____
 Miles Traversed _____
 Page 1 of 1



Amoco Production Company Seismic Observers Form

Party 045 Date 7 / 19 / 90
 County Sheridan State Mont. Line 0011
 OAC No.

Spread Layout
 Directions EAST EAST No. Fold _____
 Increasing SP. No. Tr. 1 to Tr. 2

Each Source Pattern
 No. Indiv. Sources 4 Spacing _____
 Inline Xline Inline Xline
 No. Moves Per Source _____ Dist. Each Move _____
 Inline Xline Inline Xline

Seis's Sm-7 V Seis's _____
 Type Comp. Direction Type Comp. Direction
 Seis's _____ Ref. Amoco NB# 11161 pg. 53+54
 Type Comp. Direction
 Amplifiers Geospace SGR IV 338 Samp. Int. 4 Ms; Rec. Lth. 50 Sec.
 Manuf. Model No. Channels
 Filter _____ Hz. IPW / 2 Db/Oct; 60 Hz. Rej. out
 low high low high In or Out

No. Seis. Per Grp. 12 = 12 Spacing 13.6'
 Total No. No. Inline No. Xline Inline Xline

Vibrator #18 P.W.
 Model
 Sweep 10 To 80 Hz. 30 Drive 80%
 Frequency Length

SGR'S 164 SGR Trucks 4
 No. In Field No. In Field

Vibrator Electronic Pelton Advance II
 Reference Taper 500ms Mode Linear % 100%
 Reference Phase 0°

Source Point Number	General			Spread				Vibrating				Instruments						
	File Number	Time	Controller Location	Source Point Number At Seismometer Group For The Following Traces				Perp. Offset Of Source Point	Near-Seis. Offset		Number Of Vibrators	Number Of Sweeps	Vibrator Heading	Gains				
				Tr.	Tr.	Tr.	Tr.		Back	Front				Preamp.	MODE	T=Track on Line		
		7:40																
5153	Noise File	17	9:14				135											
153		18	9:34															
157		19	10:01															
161		20	10:25															
165		21	10:44															
169		22	11:01															
173		23	11:19															
177		24	11:36															
181		25	11:53															
185	SKIP																	
189																		
193																		
197	SKIP																	
201	26	12:15																
205	27	12:33																
209	28	12:50																
213	29	1:15					135											

Calling in Boxes

Shot point dialed 149 instead of 152

T L tractor moving from high end to low end of spread
 Put 60Hz notch filter in on trace #20

Light rain falling off & on; wind picking up 13-24 mph range

} SKIP FOR NO PERMIT

** CHARGING U.P. ARRAY - SEE Amoco Production Book (ATTACHED) - ARRAY #1 - 100m (TEN)

Note: Use separate line for each record. Make original and copy. Send original to district geophysicist. Use separate sheet for each seismic line.

Weather: Dry Ground ; Wet ; Rain ; Snow ; Lightning
 Wind: (0-12 MPH) ; (13-24 MPH) ; (25-40 MPH)
 Temperature: 52-75 °F;
 Trail Conditions County Road

Leave Town 6:57 Leave Field 5:19 Expm Time _____
 Arrive Field 7:22 Arrive Town 5:49 Down Time _____
 Total Travel Time 1hr Number Men Rec. 18

Daily Summary Total To Date For Month
 No Profiles 24 UPS 24 No Profiles 171 UPS 171
 Miles Traversed _____ Miles Traversed _____
 Observer McEvoy - Zebroski Page 1 of 2



Amoco Production Company Seismic Observers Form

Party 045 Date 7/19/80
Month Day Year
 County SHERIDAN State MT. Line 0011
OAC No.

Spread Layout
 Directions _____ No. Fold _____
Increasing SP. No. Tr. 1 to Tr 2
 Distance _____ SeisGrp. _____
Tr. No. Int.

Each Source Pattern
 No. Indiv. Sources _____ Spacing _____
Inline Xline Inline Xline
 No. Moves _____ Dist. Each _____
Per Source Inline Xline Move Inline Xline

Seis's _____ Seis's _____
Type Comp. Direction Type Comp. Direction
 Seis's _____ Ref. Amoco NB# _____
Type Comp. Direction
 Amplifiers _____ Samp. Int. _____ Ms; Rec. Lth _____ Sec.
Manuf. Model No. Channels
 Filter _____ Hz. _____ Db/Oct; 60 Hz. Rej. _____
low high low high In or Out

No. Seis. _____ Spacing _____
Per Grp. Total No. No. Inline No. Xline Inline Xline

Vibrator _____ Model _____
 Sweep _____ To _____ Hz. _____ Drive _____
Frequency Length
 SGR'S _____ SGR Trucks _____
No. In Field No. In Field

Vibrator Electronic _____
Manuf. Model %
 Reference Taper _____ Mode _____
 Reference Phase _____

Source Point Number	General		Spread				Vibrating					Instruments		Remarks: (Additional remarks on back of sheet.)	
	File Number	Time	Controller Location	Source Point Number At Seismometer Group For The Following Traces				Near-Seis. Offset		Number Of Vibrators	Number Of Sweeps	Vibrator Heading	Preamp.		Gains
				Tr.	Tr.	Tr.	Tr.	Perp. Offset Of Source Point	Back						
217	30	1:35		135		472				4	16	E	45	V	
221	31	1:52													T
225	32	2:09													
229	33	2:25													
232	Skip														Skip for waterwell
237	34	2:51								16					T VIBRAZI - ACCELERAMETER PROBLEMS
241	35	4:49								17					* 350m VIB ARRAY - 17 SWEEPS; 41' MOVES * T TRACTOR WORKING FALLO @ 138
245	36	5:02								9					RAIN STARTING TO FALL
5245	Noise File 37	5:03								1					

Note: Use separate line for each record. Make original and copy. Send original to district geophysicist. Use separate sheet for each seismic line.

Weather: Dry Ground ; Wet ; Rain ; Snow ; Lightning ;
 Wind: (0-12 MPH) ; (13-24 MPH) ; (25-40 MPH) ;
 Temperature: _____ °F;
 Trail Conditions _____

Leave Town _____ Leave Field _____ Expm Time _____
 Arrive Field _____ Arrive Town _____ Down Time _____
 Total Travel Time _____ Number Men Rec. _____

Daily Summary
 No Profiles _____ Miles Traversed _____
 Total To Date For Month
 No Profiles _____ Miles Traversed _____
 Observer _____ Page 2 of 2



Amoco Production Company Seismic Observers Form

Party 045 Date 7/22/90
 County SHERIDAN State MT. Line 0211
 OAC No.

Spread Layout
 Directions EAST EAST No. Fold _____
 Increasing SP. No. Tr. 1 to Tr. 2
 Distance _____ SeisGrp. 50m
 Tr. No. Int.

Each Source Pattern
 No. Indiv. Sources 4 Spacing 50m
 Inline Xline Inline Xline
 No. Moves Per Source _____ Dist. Each Move _____
 Inline Xline Inline Xline

Seis's SM-7 V Seis's _____
 Type Comp. Direction Type Comp. Direction
 Seis's _____ Ref. Amoco NB# 11161 pg. 54
 Type Comp. Direction
 Amplifiers Geoson SGR III & IV 50/354 Samp. Int. 2/4 Ms/Rec. Lth 82/52 Sec.
 Filter _____ Hz. EPW 2 Db/Oct; 60 Hz. Rej. IN
 low high low high In or Out

No. Seis. Per Grp. 12 = 12 Spacing 4.2m
 Total No. No. Inline No. Xline Inline Xline

Vibrator #18 P.W.
 Model
 Sweep 10 To 80 Hz. 30 Drive 80%
 Frequency Length
 SGR'S 80-III's 184-IV's SGR Trucks 2-III's 4-IV's
 No. In Field No. In Field

Vibrator Electronic PELTON ADVANCED II
 Reference Taper 500ms Mode LINEAR % 100
 Reference Phase 0°

General			Spread				Vibrating				Instruments		Remarks: (Additional remarks on back of sheet.)		
Source Point Number	File Number	Time	Controller Location	Source Point Number At Seismometer Group For The Following Traces				Near-Seis. Offset		Number Of Vibrators	Number Of Sweeps	Vibrator Heading		Gains	
				Tr. 1	Tr. 2	Tr. 3	Tr. 4	Back	Front					Preamp.	MOOE
		7:21													
249	None Face	38	9:06	135	488	3001	3050			4	1	E 45	V		CALLING IN BOXES
249	39	9:26								4	17	E 45	V	T	STATIONS 474-478 - BURIED PHONES
253	40	9:43													USING 350 METER VIB ARRAY - 41' MOVEUPS
257	SKIP														* STACKING SWEEPS 16 & 17 IN POSITION 15 FOR HOUSE
261	SKIP														} SKIP FOR WATERWELL
265	SKIP														
269	41	10:04												T	
273	42	10:20													
277	43	10:40													} VIB ARRAY IS NOW 262.5 m.
281	44	10:56													
285	SKIP														} SKIP FOR PIPELINE
289	45	11:21												T	
293	46	11:37												T	} SAME VIB ARRAY - NOTCH FILTER OUT - CHANGE CALL SENT
297	47	11:54													
301	48	12:10													} NOTCH FILTER OUT SWEEP 12-48 Hz
305	49	12:29													
309	50	12:45													} NOTCH FILTER IN SWEEP 12-48 Hz - CHANGE CALL SENT

Note: Use separate line for each record. Make original and copy. Send original to district geophysicist. Use separate sheet for each seismic line.

Weather: Dry Ground ; Wet ; Rain ; Snow ; Lightning ;
 Wind: (0-12 MPH) ; (13-24 MPH) ; (25-40 MPH) ;
 Temperature: _____ °F;
 Trail Conditions _____

Leave Town 6:53 Leave Field 5:36 Expm Time _____
 Arrive Field 7:11 Arrive Town 5:51 Down Time _____
 Total Travel Time 1 hr. Number Men Rec. 17

Daily Summary 28/33 VP Total To Date For Month
 No Profiles _____ No Profiles 199/209 VP
 Miles Traversed _____ Miles Traversed _____
 Observer M. E. Egan - Recorder Page 1 of 2



Amoco Production Company Seismic Observers Form

Party 045 Date 7 / 22 / 90
 County Sheridan State Mont. Line 11
Month Day Year
OAC No.

Spread Layout

Directions _____ No. Fold _____
Increasing SP. No. Tr. 1 to Tr. 2
 Distance _____ SeisGrp. _____
Tr. No. Int.

Each Source Pattern

No. Indiv. Sources _____ Spacing _____
Inline Xline Inline Xline
 No. Moves Per Source _____ Dist. Each Move _____
Inline Xline Inline Xline

Vibrator

Model _____
 Sweep _____ To _____ Hz. _____ Drive _____
Frequency Length

Seis's _____ Seis's _____
Type Comp. Direction Type Comp. Direction
 Seis's _____ Ref. Amoco NB# _____
Type Comp. Direction pg.
 Amplifiers _____ Samp. Int. _____ Ms; Rec. Lth. _____ Sec.
Manuf. Model No. Channels
 Filter _____ Hz. _____ Db/Oct; 60 Hz. Rej. _____
low high low high In or Out

SGR'S _____ SGR Trucks _____
No. In Field No. In Field

Vibrator Electronic _____
Manuf. Model
 Reference Taper _____ Mode _____ % _____
 Reference Phase _____

No. Seis. Per Grp. _____ = _____ Spacing _____
Total No. No. Inline No. Xline Inline Xline

General			Spread				Vibrating				Instruments		Remarks: (Additional remarks on back of sheet.)		
Source Point Number	File Number	Time	Controller Location	Source Point Number At Seismometer Group For The Following Traces				Near-Seis. Offset		Number Of Sweeps	Vibrator Heading	Gains			
				Tr.	Tr.	Tr.	Tr.	Back	Front			Preamp.		MODE	T-Track on LINE
313	51	12:56		135	488	3001	3050			4	8	E	45	V	Vib ARRAY now 250, m. 8 sweeps
321	52	1:06													
329	53	1:16													
337	54	1:27													
345	55	1:36													
353	56	1:46													
361	57	1:56													
369	58	2:06													
377	59	2:15												T	* stacking sweeps 6, 7, & 8 in position 5 for house
385	60	2:26												T	* stacking sweeps 1-4 in position 5 for house
393	61	2:36													
401	62	2:46													
409	Skip														Skip for pipeline
417	63	2:57													Vib # 31 missed sweep 6
425	64	3:06													
433	65	3:15													* stacking sweep 8 in position 7 for house
441	66	3:24								4	8	E	45	V	T * stacking sweep 1-4 in position 5 for house
5441	Noise File	67	3:27							4	1	E	45	V	

Note: Use separate line for each record. Make original and copy. Send original to district geophysicist. Use separate sheet for each seismic line.

Weather: Dry Ground ; Wet ; Rain ; Snow ; Lightning ;
 Wind: (0-12 MPH) ; (13-24 MPH) ; (25-40 MPH) ;
 Temperature: _____ °F;
 Trail Conditions _____

Leave Town _____ Leave Field _____ Expm Time _____
 Arrive Field _____ Arrive Town _____ Down Time _____
 Total Travel Time _____ Number Men Rec. _____

Daily Summary
 No Profiles _____ Miles Traversed _____
 Observer _____
 Total To Date For Month
 No Profiles _____ Miles Traversed _____
 Page 2 of 2