

OBSERVER REPORT PETTY-RAY GEOPHYSICAL

GEO-252-D

CREW NO. 6834		LINE NO. 5		LEAVE TOWN/CAMP 7:00		ARRIVE TOWN/CAMP		TOTAL TR. TIME		DOWN TIME		WEATHER CLEAR COOL		TRAIL CONDITIONS GRAVEL ROAD		DATE MONTH 7 DAY 18 YEAR 86		CLIENT COCORP		JOB FOREMAN/MOORE		PM BINNS			
FILE NO.	STA. NO.	STA. NO'S (LIVE GRPS.)			C. D. P.	DIGITAL	GAIN	PARITY		SHOOTING			SUR. SOURCES			INST.	TIME	STA.	REMARKS						
		TR 1	TR 84	TR 85	TR 96	POSITION	REEL NO.	PAMPS OF "K"	TAPE	MEMORY	SIZE	TOP	BOT.	NO CAPS	U.H.T.	N. UNITS	NO. SUMS	DRIVE	SET UP	DAY	OFFSET TO LINE				
900	ALLONES				1-6SEC		656	48								5	8		660/661			MONTANA HILL			
933	PULSE				1-6SEC						ARRIVE	FIELD								8:30		4 VIBS IN LINE .82.5' SPACING			
934/935	EINT				2-6SEC																	41.25' MOVE UP FIRST VIB 21' PAST FLAG			
936/939	DRD				4-6SEC																	8 SWEEPS 26SEC SWEEP LENGTH 12-48HZ SWEEP FREQ			
953/954	SUM				2-6SEC																	42SEC REC LENGTH 4MS SAMPLE RATE			
960/961	NRJ				2-6SEC																	62.5HZ ALIAS FREQ 9HZ LOW CUT 18db/OCT			
932	SIMILARITY				1-26SEC																	55TH GAP BETWEEN 84 & 85			
580	WIND TEST STRIP																					SOME LEAKAGE ONLINE BUT NOT BAD			
581	672	586	669	675	686	238																30%			
582	673	587	670	676	687	239																60db			
583	674	588	671	677	688	240																50%			
584	675	589	672	678	689	1																50%			
585	676	590	673	679	690	2																50%			
586	677	591	674	680	691	3																30%			
SKIP	678																					1ST HALF			
SKIP	679																					688 & 689 SKIPPED DUE TO HOUSE			
587	680	594	677	683	694	6	656															EOT#656 TAP MARKS			
588	681	595	678	684	695	7	657															BOT#657			
590	682	596	679	685	696	8																30%			
591	683	597	680	686	697	9																50%			
592	684	598	681	687	698	10																50%			
593	685	599	682	688	699	11																50%			
594	686	600	683	689	700	12																50%			
595	687	601	684	690	701	13																50%			
596	688	602	685	691	702	14																50%			
597	689	603	686	692	703	15																50%			
598	690	604	687	693	704	16																50%			
599	691	605	688	694	705	17																50%			
600	692	606	689	695	706	18																50%			
601	693	607	690	696	707	19																50%			
602	694	608	691	697	708	20																50%			
603	695	609	692	698	709	21																50%			

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CREW NO.	LINE NO.	LEAVE TOWN/CAMP	ARRIVE TOWN/CAMP	TOTAL TR. TIME	DOWN TIME	WEATHER	TRAIL CONDITIONS	DATE MONTH	DAY	YEAR	CLIENT	OB	PM										
6834	5	7100				CLEAR COOL	GRAVEL ROAD	7	18	86	CCORP	FORMAN/MOORE	BINNS										
FILE NO.	STA. NO.	STA. NO'S (LIVE GRPS.)				C. D. P. POSITION	DIGITAL REEL NO.	GAIN	PARITY	SHOOTING					SUR. SOURCES			INST. SET UP	TIME DAY	STA. OFFSET TO LINE	REMARKS		
		TR	TR	TR	TR			PAMPS or "K"	TAPE	MEMORY	SIZE	TOP	BOT.	NO CAPS	U.H.T.	N. UNITS	NO. SUMS	DRIVE					
604	696	610	693	699	710	22	657	48		MISSED SWEEPS						5	8	50%	659/661				EOT # 657 TAPE MARKS
605	697	611	694	700	711	23	658											50%					BOT # 658
606	698	612	695	701	712	24												50%					
607	699	613	696	702	713	25												50%					
608	700	614	697	703	714	26												50%					
609	701	615	698	704	715	27												50%					
610	702	616	699	705	716	28												50%					
611	703	617	700	706	717	29												50%					
612	704	618	701	707	718	30												50%					
613	705	619	702	708	719	31												50%					
614	706	620	703	709	720	32												50%					
615	707	621	704	710	721	33												50%					
616	708	622	705	711	722	34												50%					
617	WIND TEST STRIP					35												60db					
618	709	623	706	712	723	35												50%					
619	710	624	707	713	724	36												50%					
620	711	625	708	714	725	37	658											50%					EOT # 658 TAPE MARKS
621	712	626	709	715	726	38	659											50%					BOT # 659
622	713	627	710	716	727	39												50%					
623	714	628	711	717	728	40												50%					
624	715	629	712	718	729	41												50%					
625	716	630	713	719	730	42												50%					
626	717	631	714	720	731	43	659											50%		3:30			Note: STA # 736 is E.O.L. # 5 731 will be last STA. USED. VPs # 718 + HRV 722 skipped due to a windmill + A NEW PAVED RD

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CREW NO. 6834		LINE NO. 5	LEAVE TOWN/CAMP 7:00	ARRIVE TOWN/CAMP	TOTAL TR. TIME	DOWN TIME	WEATHER OVERCAST COOL	TRAIL CONDITIONS GRAVEL ROAD	DATE MONTH '87	DAY 16	YEAR 86	CLIENT COCORP	OB FOREMAN/MOORE	PM BINNS					
FILE NO.	STA. NO.	STA. NO'S (LIVE GRPS.) TR 1 TR 84 TR 85 TR 96			C. D. P. POSITION	DIGITAL REEL NO.	GAIN PAMPS or "K"	PARITY TAPE	MEMORY PASSED SWEEPS	SHOOTING SIZE TOP BOT. NO CAPS U. H.T. N. UNITS NO. SUMS DRIVE				SUR. SOURCES	INST. SET UP	TIME DAY	STA. OFFSET TO LINE	REMARKS	
900	ALL ONES		1-6SEC		655	48							5	8	640/641			MONTANA HILL	5VIBS 82.5' SPACING 41.25' MOVE UP
933	PULSE		1-6SEC													8:30			FIRST VIB 21' PAST FLAG IN LINE
934/935	EINT		2-6SEC																RSWEEPS 26SEC SWEEP LENGTH 12-18HZ SWEEP REQ
936/939	DRD		4-6SEC																42 SEC REC LENGTH 4MS SAMPLE RATE
953/954	SUM		2-6SEC																62.5HZ ALIAS REQ 9HZ LOW CUT 18db/oct
960/961	NRJ		2-6SEC																5 STA GAP BETWEEN 84 & 85
932	SIMILARITY		1-26SEC											1	30%				SIMS TAKEN WITH CAMERA AT VIBS
569	WIND TEST STRIP			8											60db				
570	662	576	659	665	676	8									50%				
571	663	577	660	666	677	9									50%				
572	664	578	661	667	678	10	655								50%				EOT # 655 TAPE MARKS
573	665	579	662	668	679	11	656								50%				BOT # 656
574	666	580	663	669	680	12									50%				
575	667	581	664	670	681	13									50%				
576	668	582	665	671	682	14									50%				
577	669	583	666	672	683	15									50%				
578	670	584	667	673	684	16									50%				
579	671	585	668	674	685	17									50%	10:15			SHUT DOWN CREW DUE TO RAIN



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CREW NO. 6834		LINE NO. 5	LEAVE TOWN/CAMP 7:00	ARRIVE TOWN/CAMP	TOTAL TR. TIME	DOWN TIME	WEATHER CLEAR MODERATE	TRAIL CONDITIONS GRAVEL ROAD	DATE MONTH 7 DAY 15 YEAR 86	CLIENT COCORP	OB FOREMAN/MOORE	PM BINKS													
FILE NO.	STA. NO.	STA. NO'S (LIVE GRPS.)				C. D. P. POSITION	DIGITAL REEL NO.	GAIN PAMPS OR "K"	PARITY		SHOOTING					SUR. SOURCES			INST. SET UP	TIME DAY	STA. OFFSET TO LINE	REMARKS			
		TR 1	TR 84	TR 85	TR 96				TAPE	MEMORY	SIZE	TOP	BOT.	NO CAPS	U. H. T.	N. UNITS	NO. SUMS	DRIVE							
530	624	538	621	627	638	36	653	48									50%	574/575							
531	625	539	622	628	639	37											50%								
532	626	540	623	629	640	38											50%								
533	627	541	624	630	641	39											50%								
534	628	542	625	631	642	40											50%								
535	629	543	626	632	643	41											50%								
536	630	544	627	633	644	42											50%								
537	631	545	628	634	645	43											50%								
538	632	546	629	635	646	44											50%								
539	633	547	630	636	647	6											50%	613/614						NEW RECORDER LOCATION	
540	634	548	631	637	648	7											50%								
541	635	549	632	638	649	8	653										50%							EOT # 653 TAPE MARKS	
542	636	550	633	639	650	9	654										50%							BOT # 654	
543	637	551	634	640	651	10											50%								
544	638	552	635	641	652	11											50%								
545	639	553	636	642	653	12											50%								
546	640	554	637	643	654	13											50%								
547	641	555	638	644	655	14											50%								
548	642	556	639	645	656	15											50%								
549	643	557	640	646	657	16											50%								
550	644	558	641	647	658	17											50%								
551	645	559	642	648	659	18											50%								
552	646	560	643	649	660	19											50%								
553	647	561	644	650	661	20											50%								
554	648	562	645	651	662	21											50%								
555	649	563	646	652	663	22											50%								
556	650	564	647	653	664	23											50%								
557	WIND TEST STRIP					24	654										60db								EOT # 654 TAPE MARKS
558	651	565	648	654	665	24	655										50%								BOT # 655
559	652	566	649	655	666	25											50%								
560	653	567	650	656	667	26											50%								
561	654	568	651	657	668	27											50%								









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CREW NO.	LINE NO.	LEAVE TOWN/CAMP	ARRIVE TOWN/CAMP	TOTAL TR. TIME	DOWN TIME	WEATHER	TRAIL CONDITIONS	DATE MONTH	DAY	YEAR	CLIENT	OB	PM											
6834	5	7:00				Windy!! CLEAR COOL	GRAVEL ROAD	7	11	86	COCORP	FOREMAN/MOORE	BINNS											
FILE NO.	STA. NO.	STA. NO'S (LIVE GRPS.)				C. D. P. POSITION	DIGITAL REEL NO.	GAIN PAMPS of "K"	PARITY TAPE	MEMORY MISSED SWEEPS	SHOOTING			SUR. SOURCES			INST. SET UP	TIME DAY	STA. OFFSET TO LINE	REMARKS				
		TR 1	TR 84	TR 85	TR 96					SIZE	TOP	BOT.	NO CAPS	U.H.T.	N. UNITS	NO. SUMS	DRIVE							
900	ALLONES			1-6SEC		644	48								5	8		480/481			MONTANA HILL	511BS 82.5' SPACING 41.25' SPACING		
933	PULSE			1-6SEC						ARRIVE	FIELD								8:30			FIRST VIB 21' PAST FLAG IN LINE		
934/935	EINT			2-6SEC																		8 SWEEPS 26 SEC SWEEP LENGTH 12-40HZ SWEEP FREQ		
936/939	DRD			4-6SEC																		12 SEC REL LENGTH 4MS SAMPLE RATE		
953/954	SUM			2-6SEC																		62.5HZ ALAS FREQ 9HZ LOW CUT 18db/oct		
960/961	NRJ			2-6SEC																		5 STA GAP BETWEEN 8A & 85		
932	SIMILARITY			1-26SEC						SMS TAKEN WITH CAMERA AT VIBS					1	30%		9:00						
396	WIND TEST STRIP																60db							
397	493	407	490	496	507	239	644									8	50%		9:15			EOT # 644 TAPE MARKS		
398	494	408	491	497	508	240	645										50%					BOT # 645		
399	495	409	492	498	509	1											50%							
400	496	410	493	499	510	2											50%							
401	497	411	494	500	511	3											50%							
402	498	412	495	501	512	4											50%							
403	499	413	496	502	513	5											50%							
404	500	414	497	503	514	6											50%							
405	501	415	498	504	515	7											50%							
406	502	416	499	505	516	8											50%							
407	503	417	500	506	517	9											50%							
408	504	418	501	507	518	10											50%							
409	505	419	502	508	519	11											50%							
410	506	420	503	509	520	12											50%							
411	507	421	504	510	521	13											50%							
412	508	422	505	511	522	14											50%							
413	509	423	506	512	523	15											50%							
414	510	424	507	513	524	16	645										50%						EOT # 645 TAPE MARKS	
415	511	425	508	514	525	17	646										50%							BOT # 646
416	512	426	509	515	526	18											50%							
417	513	427	510	516	527	19											50%							
418	514	428	511	517	528	20											50%							
419	515	429	512	518	529	21											50%							
420	516	430	513	519	530	22											50%							



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GEO-252-D

CREW NO. 6834		LINE NO. 5	LEAVE TOWN/CAMP 7:00	ARRIVE TOWN/CAMP	TOTAL TR. TIME	DOWN TIME	WEATHER PARTLY CLOUDY	TRAIL CONDITIONS MODERATE GRAVEL ROAD	DATE MONTH 7 DAY 10 YEAR 86	CLIENT COCORP	OB FOREMAN/MOORE	PM BINNS								
FILE NO.	STA. NO.	STA. NO'S (LIVE GRPS.)				C. D. P. POSITION	DIGITAL REEL NO.	GAIN PAMPS or "K"	PARITY		SHOOTING					INST. SET UP	TIME DAY	STA. OFFSET TO LINE	REMARKS	
		TR	TR	TR	TR				TAPE	MEMORY MISSED SWEEPS	SIZE	TOP	BOT.	NO CAPS	U. H. T.					N. UNITS
371	469	383	466	472	483	21	643	48							5	8	50%	434/435		
372	470	384	467	473	484	22											50%			
373	471	385	468	474	485	23											50%			
374	472	386	469	475	486	24											50%			
375	473	387	470	476	487	25											50%			
376	474	388	471	477	488	26											50%			
377	475	389	472	478	489	27											50%			
378	476	390	473	479	490	28											50%			
379	477	391	474	480	491	29											50%			
380	478	392	475	481	492	30											50%			
381	479	393	476	482	493	31											50%			
382	480	394	477	483	494	32	643										50%			EOT # 643 TAPE MARKS
383	481	395	478	484	495	33	644										50%			ONE MILE OFFSET BETWEEN STA 480 & 481
384	482	396	479	485	496	34											50%			
385	483	397	480	486	497	35											50%			
386	484	398	481	487	498	36											50%			
387	485	399	482	488	499	37											50%			
388	486	400	483	489	500	38											50%			
389	487	401	484	490	501	39											50%			
390	488	402	485	491	502	40											50%			
391	489	403	486	492	503	41											50%			
392	490	404	487	493	504	42											50%			
393	WIND TEST STRIP					43											60db			
394	491	405	488	494	505	43											50%			
395	492	406	489	495	506	44											50%	4:00		

### OBSERVER REPORT PETTY-RAY GEOPHYSICAL

CREW NO. 634		LINE NO. 5	LEAVE TOWN/CAMP 7:00	ARRIVE TOWN/CAMP	TOTAL TR. TIME	DOWN TIME	WEATHER CLEAR	TRAIL CONDITIONS MODERATE GRAVEL ROAD	DATE MONTH 7	DAY 8	YEAR 86	CLIENT COCORP	OB FOREMAN/MORE	PM BINNS								
FILE NO.	STA. NO.	STA. NO'S (LIVE GRPS.)				C. D. P. POSITION	DIGITAL REEL NO.	GAIN PAMPS or "K"	PARITY TAPE	MEMORY MISSED SWEEPS	SHOOTING SIZE	TOP	BOT.	NO CAPS	U. H. T.	N. UNITS	NO. SUMS	DRIVE	INST. SET UP	TIME DAY	STA. OFFSET TO LINE	REMARKS
		TR 1	TR 84	TR 85	TR 96																	
900	ALLOWES			1-6SEC		638	48									5	8		384/385			MONTANA LIBERTY
933	PULSE			1-6SEC																8:45		5 VIBS 82.5' SPACING 41.25' MOVE UP
934/935	EINT			2-6SEC																		FIRST VIB 21' PAST FLAG IN LINE
936/939	DRD			4-6SEC																		8 SWEEPS 26 SEC SWEEP LENGTH 12-18 HZ SWEEP FREQ
953/954	SUM			2-6SEC																		42 SEC RECORDED LENGTH 4MS SAMPLE RATE
960/961	NRJ			2-6SEC																		6.25 HZ ALIAS FREQ 9 HZ LOW CUT 18 db / OUT
932	SIMILARITY			1-26SEC																		5 STA GAP BETWEEN 84 & 85
298	WIND TEST STRIP					239																1 30%
299	397	311	394	400	411	239																60db
300	398	312	395	401	412	240																8 30%
301	399	313	396	402	413	1																30%
302	400	314	397	403	414	2																30%
303	401	315	398	404	415	3	638															30%
304	402	316	399	405	416	4	639															EOT # 638 TAPE MARKS
305	403	317	400	406	417	5																30%
306	404	318	401	407	418	6																30%
307	405	319	402	408	419	7																30%
308	406	320	403	409	420	8																30%
309	407	321	404	410	421	9																30%
310	408	322	405	411	422	10																30%
311	409	323	406	412	423	11																30%
312	410	324	407	413	424	12																30%
313	411	325	408	414	425	13																30%
314	412	326	409	415	426	14																30%
315	413	327	410	416	427	15																30%
316	414	328	411	417	428	16																30%
317	415	329	412	418	429	17																30%
SKIP	416																					SKIP
SKIP	417																					SKIP
318	418	332	415	421	432	20																50%
319	419	333	416	422	433	21	639															50%
320	420	334	417	423	434	22	640															50%

STA # 416 & 417 SKIPPED DUE TO CROSS COUNTRY CABLE RUN  
 VIBS RETURNED TO GRAVEL ROAD  
 EOT # 639 TAPE MARKS  
 BOT # 640

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CREW NO. 6834		LINE NO. 5	LEAVE TOWN/CAMP 7:00			ARRIVE TOWN/CAMP		TOTAL TR. TIME		DOWN TIME	WEATHER CLEAR MODERATE	TRAIL CONDITIONS GRAVEL ROAD			DATE MONTH 7 DAY 8 YEAR 86	CLIENT COCORP	OB FOREMAN/MOORE	PM BINNS				
FILE NO.	STA. NO.	STA. NO'S (LIVE GRPS.)				C. D. P. POSITION	DIGITAL REEL NO.	GAIN PAMPS or "K"	PARITY		SHOOTING					SUR. SOURCES			INST. SET UP	TIME DAY	STA. OFFSET TO LINE	REMARKS
		TR 1	TR 84	TR 85	TR 96				TAPE	MEMORY MISSED SWEEPS	SIZE	TOP	BOT.	NO CAPS	U. H. T.	N. UNITS	NO. SUMS	DRIVE				
321	421	335	418	424	435	23	640	98						5	8	50%	384/385					
322	422	336	419	425	436	24										50%						
323	423	337	420	426	437	25										50%						
324	424	338	421	427	438	26										50%						
325	425	339	422	428	439	27										50%						
326	426	340	423	429	440	28										50%						
327	427	341	424	430	441	29										50%						
328	428	342	425	431	442	30										50%						
329	429	343	426	432	443	31										50%						
330	430	344	427	433	444	32										50%						
331	431	345	428	434	445	33										50%						
332	432	346	429	435	446	34										50%						
333	433	347	430	436	447	35										50%						
334	434	348	431	437	448	36										50%						
335	435	349	432	438	449	37	640									50%					EOT# 640 TAPE MARKS	
336	436	350	433	439	450	38	641									50%					BOT # 641	
337	437	351	434	440	451	39										50%						
338	WIND TEST STRIP					40										60db						
339	438	352	435	441	452	40										50%						
340	439	353	436	442	453	41										50%						
341	440	354	437	443	454	42										50%						
342	441	355	438	444	455	43										50%						
343	442	356	439	445	456	44										50%						
344	443	357	440	446	457	45										50%						
345	444	358	441	447	458	46										50%				4:00		



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CREW NO. 6834		LINE NO. 5		LEAVE TOWN/CAMP 7:00		ARRIVE TOWN/CAMP		TOTAL TR. TIME		DOWN TIME		WEATHER CLEAR WARM		TRAIL CONDITIONS GRAVEL ROAD		DATE MONTH 7 DAY 7 YEAR 86		CLIENT COCOLP		OB FOREMAN/MOORE		PM BINNS		
FILE NO.	STA. NO.	STA. NO'S (LIVE GRPS.)				C. D. P. POSITION	DIGITAL REEL NO.	GAIN PAMPS or "K"	PARITY		SHOOTING					SUR. SOURCES			INST. SET UP	TIME DAY	STA. OFFSET TO LINE	REMARKS		
		TR	TR 84	TR 85	TR 96				TAPE	MEMORY	SIZE	TOP	BOT.	NO CAPS	U. H. T.	N. UNITS	NO. SUMS	DRIVE						
285	380	294	377	383	394	28	637	48								5	8	50%	388/389				MONTANA LIBERTY	
286	381	295	378	384	395	29												50%					2ND HALF	
287	382	296	379	385	396	30												50%						
288	383	297	380	386	397	31	637											50%					EOT # 337 TAPE MARKS	
289	384	298	381	387	398	32	638											50%					BOT # 338	
SKIP	385																	SKIP					STA 385-388 SKIPPED DUE TO	
SKIP	386																	SKIP					CROSS COUNTRY CABLE RUN	
SKIP	387																	SKIP						
SKIP	388																	SKIP						
290	389	303	386	392	403	37												30%					VIBS ON PAVEMENT	
291	390	304	387	393	404	38												30%						
292	391	305	388	394	405	39												30%						
293	392	306	389	395	406	40												30%						
294	393	307	390	396	407	41												30%						
295	394	308	391	397	408	42												30%						
296	395	309	392	398	409	43												30%						
297	396	310	393	399	410	44												30%		4:00				
																								NEW RECORDER LOCATION







# OBSERVER REPORT PETTY-RAY GEOPHYSICAL

GEO-252-D

CREW NO. 6834		LINE NO. 5		LEAVE TOWN/CAMP 7:00		ARRIVE TOWN/CAMP		TOTAL TR. TIME		DOWN TIME		WEATHER <i>Misty Cloudy Moderate</i>		TRAIL CONDITIONS <i>Gravel Road</i>		DATE MONTH 7 DAY 2 YEAR 86		CLIENT COCORP		OB FOREMAN/MOORE		PM BINNS	
FILE NO.	STA. NO.	STA. NO'S (LIVE GRPS.)				C. D. P. POSITION	DIGITAL REEL NO.	GAIN PAMPS of "K"	PARITY			SHOOTING				SUR. SOURCES			INST. SET UP	TIME DAY	STA. OFFSET TO LINE	REMARKS	
		TR 1	TR 84	TR 85	TR 96				TAPE	MEMORY MISSET	SIZE	TOP	BOT.	NO CAPS	U.H.T.	N. UNITS	NO. SUMS	DRIVE					
176	274	188	271	277	288	25	630	48							5	8	50%	235/266					
177	275	189	272	278	289	26											50%						
178	276	190	273	279	290	27											50%						
179	277	191	274	280	291	28	630										50%						
180	278	192	275	281	292	29	631										50%						EOT #630 TAPE MARKS
181	279	193	276	282	293	30											50%						
182	280	194	277	283	294	31											50%						
183	281	195	278	284	295	32											50%						
184	282	196	279	285	296	33											50%						
185	283	197	280	286	297	34											50%						
186	284	198	281	287	298	35											50%						
187	285	199	282	288	299	36											50%						
188	286	200	283	289	300	37											50%						
189	287	201	284	290	301	38											50%						
190	288	202	285	291	302	39											50%						
191	289	203	286	292	303	40											50%						
192	290	204	287	293	304	41											50%						
193	291	205	288	294	305	42											50%						
194	292	206	289	295	306	43											50%						
195	293	207	290	296	307	44	631										50%						EOT 631 TAPE MARKS
196	294	208	291	297	308	8	632										50%	272/273					BOT 632 NEW RECORDER LOCATION
197	295	209	292	298	309	9											50%						
198	296	210	293	299	310	10											50%						
199	297	211	294	300	311	11											50%						
200	298	212	295	301	312	12											50%						
201	299	213	296	302	313	13											50%						
202	WIND TEST				STCIP	13											60%						
203	300	214	297	303	314	14											50%						
204	301	215	298	304	315	15											50%						
205	302	216	299	305	316	16											50%						FILE 205 BAD - PARITY BAD AREA
206	302	216	299	305	316	16											50%						ON TAPE
207	302	216	299	305	316	16											50%						



### OBSERVER REPORT PETTY-RAY GEOPHYSICAL

CREW NO. 6834		LINE NO. 5	LEAVE TOWN/CAMP 7:00	ARRIVE TOWN/CAMP	TOTAL TR. TIME	DOWN TIME	WEATHER CLEAR moderate	TRAIL CONDITIONS GRAVEL ROAD	DATE MONTH 7 DAY 1 YEAR 86	CLIENT COCORP	OB Foreman/Moore	PM BINNS					
FILE NO.	STA. NO.	STA. NO'S (LIVE GRPS.)				C. D. P. POSITION	DIGITAL REEL NO.	GAIN PAMPS or "K"	PARITY TAPE	MEMORY MISSED SURPTS	SHOOTING SIZE TOP BOT. NO CAPS U.H.T.	SUR. SOURCES N. UNITS NO. SUMS DRIVE	INST. SET UP	TIME DAY	STA. OFFSET TO LINE	REMARKS	
900	ALL ONES		1-6 SEC			626	48					5 8	178/179			MONTANA LIBERTY	5 VIBS 82.5' SPACING 41.25' MOVE UP
933	PULSE		1-6 SEC											8:45			26 SEC SWEEP LENGTH 8 SWEEPS 12-98 HZ SWEEP FREQ
934/935	EINT		2-6 SEC														42 SEC REC LENGTH 4 MS SAMPLE RATE
936/939	DRD		4-6 SEC														62.5 HZ ALIAS FREQ 9 HZ LOW CUT 18 db/OCT
953/954	SUM		2-6 SEC														VIBS IN LINE FIRST VIB 21' PAST FLAG
960/961	NRS		2-6 SEC														5 STA GAP BETWEEN 84 & 85
932	SIMILARITY		1-26 SEC									1	30%	9:30			
103	WIND TEST STRIP												60db				
104	197	111	194	200	211	5							8	50%	9:45		
105	198	112	195	201	212	6								50%			
106	199	113	196	202	213	7								50%			
107	200	114	197	203	214	8								50%			
108	201	115	198	204	215	9								50%			
109	202	116	199	205	216	10								50%			
110	203	117	200	206	217	11								50%			
111	204	118	201	207	218	12								50%			
112	205	119	202	208	219	13								50%			
113	206	120	203	209	220	14	626							50%			EOT # 626 TAPE MARKS
114	207	121	204	210	221	15	627							50%			BOT # 627
115	208	122	205	211	222	16								50%			
116	209	123	206	212	223	17								50%			
117	210	124	207	213	224	18								50%			
118	211	125	208	214	225	19								50%			
119	212	126	209	215	226	20								50%			
120	213	127	210	216	227	21								50%			
121	214	128	211	217	228	22								50%			
122	215	129	212	218	229	23								50%			
123	216	130	213	219	230	24								50%			
124	217	131	214	220	231	25								50%			
125	218	132	215	221	232	26								50%			
126	219	133	216	222	233	27								50%			
127	220	134	217	223	234	28								50%			



# OBSERVER REPORT PETTY-RAY GEOPHYSICAL

GEO-252-D

CREW NO. 6834		LINE NO. 5	LEAVE TOWN/CAMP 7:00			ARRIVE TOWN/CAMP			TOTAL TR. TIME	DOWN TIME	WEATHER Cloudy	TRAIL CONDITIONS Cool GRAVEL ROAD			DATE MONTH 6 DAY 30 YEAR 86	CLIENT COCORP	OB FOREMAN/MORE	PM BINNS		
FILE NO.	STA. NO.	STA. NO'S (LIVE GRPS.)			C. D. P. POSITION	DIGITAL REEL NO.	GAIN PAMPS or "K"	PARITY			SHOOTING					INST. SET UP	TIME DAY	STA. OFFSET TO LINE	REMARKS	
		TR 84	TR 85	TR 96				TAPE	MEMORY MISSED SWEEPS	SIZE	TOP	BOT.	NO CAPS	U.H.T.	N. UNITS					NO. SUMS
900	ALL ONES	1-6SEC				622	48							5	8		115/116		MONTANA LIBERTY	5VIBS 82.5' SPACING- 41.25' MOVE UP
933	PULSE	1-6SEC								ARCHIVE	FIELD						8:30			IN LINE FIRST VIB 21' PAST FLAG
934/935	EINT	2-6SEC																		8 SWEEPS 26 SEC SWEEP LENGTH 12-18HZ SWEEP FREQ
936/939	DRD	4-6SEC																		42 SEC REC LENGTH 4 MS SAMPLE RATE
953/954	SUM	2-6SEC																		62.5HZ ALIAS FREQ 9HZ LOW CUT 18db/OCT
960/961	NRS	2-6SEC																		5 STA GAP BETWEEN 84 & 85
932	SIMILARITY	1-2.6SEC												1	30%					
046	WIND TEST	STRIP			1										6db					
047	130	44	127	133	144	1	622							8	50%	9:00				EOT # 622 TAPE MARKS
048	131	45	128	134	145	2	623								50%					BOT # 623
049	132	46	129	135	146	3									50%					
050	133	47	130	136	147	4									50%					
051	134	48	131	137	148	5									50%					
052	135	49	132	138	149	6									50%					
053	136	50	133	139	150	7									50%					
054	137	51	134	140	151	8									50%					
055	138	52	135	141	152	9									50%					
056	139	53	136	142	153	10									50%					
057	140	54	137	143	154	11									50%					
058	141	55	138	144	155	12									50%					
059	142	56	139	145	156	13									50%					
060	143	57	140	146	157	14									50%					
061	144	58	141	147	158	15									50%					
062	145	59	142	148	159	16									50%					
063	146	60	143	149	160	17									50%					
064	147	61	144	150	161	18	623								50%					EOT # 623 TAPE MARKS
065	148	62	145	151	162	19	624								50%					BOT # 624
066	149	63	146	152	163	20									50%					
067	150	64	147	153	164	21									50%					
068	151	65	148	154	165	22									50%					
069	152	66	149	155	166	23									50%					
070	153	67	150	156	167	24									50%					

OBSERVER REPORT PETTY-RAY GEOPHYSICAL

CEO-252-D

CREW NO.	LINE NO.	LEAVE TOWN/CAMP	ARRIVE TOWN/CAMP	TOTAL TR. TIME	DOWN TIME	WEATHER	TRAIL CONDITIONS	DATE MONTH	DAY	YEAR	CLIENT	OB	PM									
6834	71005	7:00				PARTLY CLOUDY COOL OVERCAST		6	30	86	COCORP	FORSMAN/MOORE	BINNS									
FILE NO.	STA. NO.	STA. NO'S (LIVE GRPS.)				C. D. P. POSITION	DIGITAL REEL NO.	GAIN	PARITY			SHOOTING				SUR. SOURCES			INST. SET UP	TIME DAY	STA. OFFSET TO LINE	REMARKS
		TR 1	TR 84	TR 85	TR 96			PAMPS or "K"	TAPE	MEMORY MISSED SWEEPS	SIZE	TOP	BOT.	NO CAPS	U. H. T.	N. UNITS	NO. SUMS	DRIVE				
071	154	68	151	157	168	25	624	48								5	8	50%	115/116			
072	155	69	152	158	169	26												50%				
073	156	70	153	159	170	27												50%				
074	157	71	154	160	171	28												50%				
075	158	72	155	161	172	29												50%				
076	159	73	156	162	173	30												50%				
077	160	74	157	163	174	31												50%				
078	161	75	158	164	175	32												50%				
079	173	87	170	176	187	6												30%	153/154			NEW RECORDER LOCATION BARN
080	174	88	171	177	188	7												50%				STATIONS # 162 THRU 172
081	175	89	172	178	189	8	624											50%				SKIPPED DUE TO CROSS COUNTRY
082	176	90	173	179	190	9	625											50%				CABLE RUN & BARNS
083	177	91	174	180	191	10												50%				
084	178	92	175	181	192	11												50%				1ST HALF OFFSET
085	179	93	176	182	193	12												50%				LINE OFFSET 1 MILE SOUTH BETWEEN
086	180	94	177	183	194	13												50%				STATIONS 178 & 179
087	181	95	178	184	195	14												50%				
088	182	96	179	185	196	15												50%				
089	183	97	180	186	197	16												50%				
090	184	98	181	187	198	17												50%				
091	185	99	182	188	199	18												50%				
092	186	100	183	189	200	19												50%				
093	187	101	184	190	201	20												50%				
094	188	102	185	191	202	21												50%				
095	189	103	186	192	203	22												50%				
096	190	104	187	193	204	23												50%				
097	191	105	188	194	205	24												50%				
098	192	106	189	195	206	25	625											50%				EOT # 625 TAPE MARKS
099	193	107	190	196	207	26	626											50%				BOT # 626
100	194	108	191	197	208	27												50%				
101	195	109	192	198	209	28												50%				
102	196	110	193	199	210	29												50%				9:30

OBSERVER REPORT PETTY-RAY GEOPHYSICAL

GEO-252-D

CREW NO.	LINE NO.	LEAVE TOWN/CAMP	ARRIVE TOWN/CAMP	TOTAL TR. TIME	DOWN TIME	WEATHER	TRAIL CONDITIONS	DATE MONTH	DAY	YEAR	CLIENT	OB FOREMAN	PM			
6834	5	7:00				OVERCAST COOL	GRAVEL ROAD	6	27	86	COCORP	MOORE	Binns			
FILE NO.	STA. NO.	STA. NO'S (LIVE GRPS.)	C. D. P. POSITION	DIGITAL REEL NO.	GAIN PAMPS or "K"	PARITY TAPE MEMORY	SHOOTING SIZE TOP BOT.	NO CAPS	U.H.T.	N. UNITS	SUR. SOURCES NO. SUMS	DRIVE	INST. SET UP	TIME DAY	STA. OFFSET TO LINE	REMARKS
900	ALL ONES	1-6 SEC		620	48	MISSED SWEEPS				5	8		7/75			5 VIBS 82.5' SPACING 41.25' MOVE UP
933	PULSE	1-6 SEC					ARRIVE FIELD							8:30		IN LINE FIRST VIB 21' PAST FLAG
934/935	EINT	2-6 SEC														26 SEC SWEEP LENGTH 8 SWEEPS 12-98 HZ SWEEP FREQ
936/939	DRD	4-6 SEC														42 SEC REC LENGTH 4MS SAMPLE RATE
953/954	SUM	2-6 SEC														425 HZ ALIAS 9 HZ LOW CUT 18 db/OCT
960/961	NRJ	2-6 SEC														5 STA GAP BETWEEN 84 & 85
932	SIMILARITY	1-26 SEC					SIMS TAKEN WITH CAMERA AT VIBS			5	1	30%		9:30		
001	WIND TEST STRIP		239									60db				STANDING BY FOR LAYOUT OF LINE 5
002	87	1 84 90 101	239							5	8	50%		11:30		
003	88	2 85 91 102	240									50%				
004	89	3 86 92 103	1									50%				
005	90	4 87 93 104	2									50%				
006	91	5 88 94 105	3									50%				
007	92	6 89 95 106	4									50%				
008	93	7 90 96 107	5									50%				
009	94	8 91 97 108	6									50%				
010	95	9 92 98 109	7									50%				
011	96	10 93 99 110	8									50%				
012	97	11 94 100 111	9									50%				
013	98	12 95 101 112	10									50%				
014	99	13 96 102 113	11									50%				
015	100	14 97 103 114	12	620								50%				EOT #620 TAPE MARKS
016	101	15 98 104 115	13	621								50%				BOT #621
017	102	16 99 105 116	14									50%				
018	103	17 100 106 117	15									50%				
019	104	18 101 107 118	16									50%				
020	105	19 102 108 119	17									50%				
021	106	20 103 109 120	18									50%				
022	107	21 104 110 121	19									50%				
023	108	22 105 111 122	20									50%				
024	109	23 106 112 123	21									50%				
025	110	24 107 113 124	22									50%				

### OBSERVER REPORT PETTY-RAY GEOPHYSICAL

GEO-252-D

CREW NO. 6834		LINE NO. 5	LEAVE TOWN/CAMP 7:00		ARRIVE TOWN/CAMP		TOTAL TR. TIME		DOWN TIME	WEATHER CLEAR MODERATE	TRAIL CONDITIONS GRAVEL ROAD	DATE MONTH 6 DAY 27 YEAR 86	CLIENT COCORP	OB FREEMAN/MOORE	PM BINNS								
FILE NO.	STA. NO.	STA. NO'S (LIVE GRPS.)				C. D. P. POSITION	DIGITAL REEL NO.	GAIN PAMPS OF "K"	PARITY		SHOOTING					SUR. SOURCES			INST. SET UP	TIME DAY	STA. OFFSET TO LINE	REMARKS	
		TR	TR	TR	TR				TAPE	MEMORY	SIZE	TOP	BOT.	NO CAPS	U. H. T.	N. UNITS	NO. SUMS	DRIVE					
026	111	25	108	114	125	23	621	48								5	8	50%	74/75				
027	112	26	109	115	126	24												50%					
028	113	27	110	116	127	25												50%					
029	114	28	111	117	128	26												50%					
030	115	29	112	118	129	27												50%					
031	116	30	113	119	130	28												50%					
032	117	31	114	120	131	29	621											50%				EOT # 621	TAPE MACKS
033	118	32	115	121	132	30	622											50%				BOT # 622	
034	119	33	116	122	133	31												50%					
035	120	34	117	123	134	32												50%					
036	121	35	118	124	135	33												50%					
037	122	36	119	125	136	34												50%					
038	123	37	120	126	137	35												50%					
039	WIND	TEST	STRIP			36												62db					
040	124	38	121	127	138	36												50%					
041	125	39	122	128	139	37												50%					
042	126	40	123	129	140	38												50%					
043	127	41	124	130	141	39												50%					
044	128	42	125	131	142	40												50%					
045	129	43	126	132	143	41												50%		4130			

Petty-Ray Geophysical



GEO-211-C

This cover sheet must be completed at the beginning of each line, or when parameters change.

GENERAL	
Crew No. <u>6834</u>	Contract No. <u>799</u>
Client <u>COCO RP</u>	
Area <u>MONTANA</u>	
Country <u>MONTANA</u>	
County <u>Liberty</u>	
Concession <u>Liberty</u>	
State <u>MONTANA</u>	
Party Mgr. <u>Bicus</u>	FOREMAN <u>MOORE</u>
Line No. <u>5</u>	Date Start of Line <u>6-27-86</u>
Sta. Int. <u>330'</u> Feet	Meters <u>48%</u> Fold
Spread Dimensions <u>1-84</u> <sup>5 sta</sup> <u>85-96</u>	
VP's Increase	N <input type="checkbox"/> E <input checked="" type="checkbox"/> S <input type="checkbox"/> W <input type="checkbox"/>
	W → E

GEOPHONES	
Manufacture <u>MD-100's</u>	Array Length <u>322'</u>
Frequency <u>8 Hz</u>	Array Width <u>inline</u>
No. per string <u>2 @ 12</u>	Array Across Between Sta per trace <u>24 total</u>
Separation String Connected	Ser <input type="checkbox"/> Par <input checked="" type="checkbox"/>
Coil Res. <u>335 Ohms</u>	String Phone
Shunt Res.	<input type="checkbox"/> <input type="checkbox"/>
Connected at Sta	Ser <input type="checkbox"/> Par <input checked="" type="checkbox"/>
Separation between elements in the array	<u>14.34'</u>
	<u>14'</u>

RECORDING SYSTEM	
Type:	<u>MDS-10</u>
Format:	<u>SEG-B</u>
No. of Channels:	<u>96</u>
Sample Rate:	<u>4 ms</u>
Record Length:	<u>42 sec</u>
BPI:	<u>1600</u>
Low-Cut Filter	Freq: <u>9 Hz</u> Slope: <u>18 db</u>
High-Cut Filter	Freq: <u>62.5</u> Slope: <u>72 db</u>
Static Filter	In <input checked="" type="checkbox"/> Out <input type="checkbox"/>
Notch Filter	In <input checked="" type="checkbox"/> Out <input type="checkbox"/> <u>60 Hz</u>
UH Ch. On Tape	Wireline <u>N/A</u> Radio <u>N/A</u>
Sweep Ch. On Tape	Aux # <u>2</u> SAUTO # <u>50</u> " <u>4</u> " <u>52</u>

ENERGY SOURCE	
Type:	<u>V-1100's 5 Vibs</u>
Manufacturer:	<u>Failing</u>
Source Control:	<u>RCV-310</u>
Dynamite	Holes/Shotpoint: <u>N/A</u>
	Charge/Shotpoint: <u>N/A</u>
	Pattern Length: <u>N/A</u> Feet Meters
Surface Source	Array Length: <u>489'</u> Feet Meters
	No. of drops, sweeps, etc. in array: <u>8</u>
	Sweep Freq: <u>12 → 48 Hz</u>
	Sweep Length: <u>26 SEC</u>
	Unit Separation: <u>82.5'</u> Feet Meters
	Unit Moveup: <u>41.25'</u> Feet Meters
	Array Centered: <input checked="" type="checkbox"/> Across Sta <input type="checkbox"/> Between Sta

REMARKS: Air Gun Delay, etc.  
 VARI SOURCE USED Yes  No  Invalid Channels:

LINE COVER SHEET: DRAW DIAGRAM OF GEOPHONE ARRAY AND SOURCE ARRAY

