



April 13, 2012

Colorado Division of Reclamation Mining & Safety
Grand Junction Office
101 South 3rd Street, Suite 301
Grand Junction, Colorado 81501
Attention: Travis Marshall

RECEIVED

APR 17 2012
GRAND JUNCTION FIELD OFFICE
DIVISION OF
RECLAMATION MINING & SAFETY

Re: Mined Land Reclamation Board Permit No. M-1980-047
Colony Shale Oil Project
WATER MONITORING INFORMATION

Dear Mr. Marshall,

Please find two (2) copies of Exxon Mobil's HYDROLOGY MONITORING REPORT for the 1st quarter 2012. The following locations were not sampled during the 1st quarter due to ongoing tracer tests at Colony mine: WW-CC-ID1, WW-CC-SD1, WW-EF-V2, WW-EF-V3a, and WW-EF-V4. Should you have general questions, please contact me at 281-654-6246. In addition, technical questions may be addressed to Roy Springfield at 713-431-6145

Respectfully submitted,

A handwritten signature in blue ink that reads "Tom L. Adams".

Tom L. Adams
Colony Supervisor
ExxonMobil Global Services Company
Acting for and on behalf of
Exxon Mobil Corporation

Enclosures

**EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
THA6 WATER QUALITY - Organics**

[illegible]

**EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
WDR4 WATER QUALITY - Metals**

[illegible]

**EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
WDR4 WATER QUALITY - Anions**

[illegible]

**EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
WDR4 WATER QUALITY - Organics**

[illegible]

**EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
WW11 WATER QUALITY - Metals**

[illegible]

**EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
MW12 WATER QUALITY - Metals**

[illegible]

**EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
MW12 WATER QUALITY - Anions**

[illegible]

EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
MW12 WATER QUALITY - Organics

[illegible]

**EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
THA6 WATER QUALITY - Metals**

[illegible]

**EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
THA6 WATER QUALITY - Anions**

[illegible]

**EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
WW11 WATER QUALITY - Anions**

Date	T. Alk. mg/L	BOD ₅ mg/L	COD mg/L	Cl mg/L	Cond µmhos/cm	CN _{Total} (mg/L)	F (mg/L)	Hard mg/L	NO ₃ -N mg/L	NO ₃ -N+NO ₂ -N mg/L	NO ₂ -N mg/L	NH ₃ -N mg/L	TKN mg/L	o-P mg/L	P _{Total} mg/L	TDS mg/L	SAR	SO ₄ mg/L	S ²⁻ mg/L	SCN mg/L	pH s.u.
1/23/2012	704	10	30	9	1430 U		6.8	135 U		U		0.57	0.7	0.1	0.02	890	11.8	73	13.2	1.1	8.5
2/21/2012	707	14 U		9	1370 U		6.6	127 U		U		0.67	0.9	0.06	0.02	850	11.4	71	11.2	1.6	8.6
3/20/2012	699	15	30	4	1330 U		6.6	124 U		U	0.02	0.62	1	0.03	0.01	870	11.5	77	17.4	1.3	8.5

EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
WW11 WATER QUALITY - Organics

[illegible]

**EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
WW-EF-01 WATER QUALITY - Metals**

Date	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Hexavalent Cr(VI) mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L	K mg/L	Se mg/L	Silica mg/L	Si mg/L	Ag mg/L	Na mg/L	Tl mg/L	U mg/L	Zn mg/L
1/24/2012	U	U	U	0.032	U	0.24	U	186	U	U	U	0.0019	0.07	U	0.04	170	0.028	U	0.08	U	1.4	0.0571	20.3	9.5	U	144	0.0002	0.0121	U
2/21/2012	U	U	U	0.03	U	0.23	U	178	U	U	U	0.0019	U	U	0.04	162	0.013	U	0.07	U	1.5	0.0625	19	8.9	U	134	0.0002	0.0121	U
3/19/2012	U	U	U	0.029	U	0.24	U	195	U	U	U	0.0017	0.03	U	0.04	176	0.16	U	0.08	U	1.3	0.0578	20.2	9.4	U	144	0.0002	0.0129	U

**EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
WW-EF-01 WATER QUALITY - Anions**

[illegible]

EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
WW-EF-01 WATER QUALITY - Organics

[illegible]

**EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
WW-EF-AW1 WATER QUALITY - Metals**

Date	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Hexavalent Cr(VI) mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L	K mg/L	Se mg/L	Silica mg/L	Si mg/L	Ag mg/L	Na mg/L	Tl mg/L	U mg/L	Zn mg/L	
3/20/2012	U	0.0006	0.0031	0.045	U	0.15	U	99.9	0.0014	U	U	0.0018	U	U	0.03	88.6	U	U	0.07	U	2.3	0.0283	20.4	U	9.5	U	94.9	U	0.0079	U

**EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
WW-EF-AW1 WATER QUALITY - Anions**

Date	T. Alk. mg/L	BOD ₅ mg/L	COD mg/L	Cl mg/L	Cond μmhos/cm	CN _{Total} (mg/L)	F (mg/L)	Hard mg/L	NO ₃ -N mg/L	NO ₃ -N+NO ₂ -N mg/L	NO ₂ -N mg/L	NH ₃ -N mg/L	TKN mg/L	o-P mg/L	P _{Total} mg/L	TDS mg/L	SAR	SO ₄ mg/L	S ²⁻ mg/L	SCN mg/L	pH s.u.
3/20/2012	361 U		40	10	1310 U		1.2	614	6.21	6.21 U		U	0.8	0.02	0.16	990	1.69	420 U		U	8.4

**EXXON COLONY SITE
REPORT GROUNDWATER SAMPLES
WW-EF-AW1 WATER QUALITY - Organics**

Date		3/20/2012	U
Phenol	mg/L	0.006	
O&G	µg/L	U	
Pyrene	µg/L	U	
Phenanthrene	µg/L	U	
Naphthalene	µg/L	U	
Indeno(1,2,3-cd)pyrene	µg/L	U	
Fluorene	µg/L	U	
Fluoranthene	µg/L	U	
Dibenzo(a,h)anthracen	µg/L	U	
Chrysene	µg/L	U	
Benzo(k)fluoranthene	µg/L	U	
Benzo(g,h,i)perylene	µg/L	U	
Benzo(b)fluoranthene	µg/L	U	
Benzo(a)pyrene	µg/L	U	
Benzo(a)anthracene	µg/L	U	
Anthracene	µg/L	U	
Acenaphthylene	µg/L	U	
Acenaphthene	µg/L	U	
2-Methylnaphthalene	µg/L	U	
TPH C10-C28	µg/L	0.1	
BTEX	µg/L	U	
Toluene	µg/L	U	
o xylene	µg/L	U	
m/p xylene	µg/L	U	
Et-Benzene	µg/L	U	
Benzene	µg/L	U	

EXXON COLONY SITE
REPORT SURFACE-WATER SAMPLES
SW-EF-01 WATER QUALITY - Metals (Part I)

[illegible]

EXXON COLONY SITE
REPORT SURFACE-WATER SAMPLES
SW-EF-01 WATER QUALITY - Metals (Part II)

[illegible]

**EXXON COLONY SITE
REPORT SURFACE-WATER SAMPLES
SW-EF-01 WATER QUALITY - Anlons**

[illegible]

EXXON COLONY SITE
REPORT SURFACE-WATER SAMPLES
SW-EF-01 WATER QUALITY - Organics

SW-EF-01 WATER QUALITY - Organics					
	Date	Benzene µg/L	Eti-Benzene µg/L	m/p xylene µg/L	o xylene µg/L
Phenol mg/L	U				
O&G µg/L	U				
Pyrene µg/L	U				
Phenanthrene µg/L	U				
Naphthalene µg/L	U				
Indeno(1,2,3-cd)pyrene µg/L	U				
Fluorene µg/L	U				
Fluoranthene µg/L	U				
Dibenzo(a,h)anthracen µg/L	U				
Chrysene µg/L	U				
Benzo(k)fluoranthene µg/L	U				
Benzo(g,h,i)perylene µg/L	U				
Benzo(b)fluoranthene µg/L	U				
Benzo(a)pyrene µg/L	U				
Benzo(a)anthracene µg/L	U				
Anthracene µg/L	U				
Acenaphthylene µg/L	U				
Acenaphthene µg/L	U				
2-Methylnaphthalene µg/L	U				
TPH C10-C28 µg/L	U				
BTEX µg/L	U				
Toluene µg/L	U				
m/p xylene µg/L	U				
Eti-Benzene µg/L	U				
Benzene µg/L	U				

**EXXON COLONY SITE
REPORT SURFACE-WATER SAMPLES
SW-MD-1 WATER QUALITY - Metals (Part I)**

[illegible]

EXXON COLONY SITE
REPORT SURFACE-WATER SAMPLES
SW-MD-1 WATER QUALITY - Metals (Part II)

[illegible]

EXXON COLONY SITE
REPORT SURFACE-WATER SAMPLES
SW-MD-1 WATER QUALITY - Anions

[illegible]

EXXON COLONY SITE
REPORT SURFACE-WATER SAMPLES
SW-MD-1 WATER QUALITY - Organics

SW-MD-1 WATER QUALITY - Organics			
Phenol	mg/L	0.01	
O&G	µg/L	0.063	
Pyrene	µg/L		
Phenanthrene	µg/L		
Naphthalene	µg/L		
Indeno(1,2,3-cd)pyrene	µg/L		
Fluorene	µg/L		
Fluoranthene	µg/L		
Dibenzo(a,h)anthracen	µg/L		
Chrysene	µg/L		
Benzo(k)fluoranthene	µg/L		
Benzo(g,h,i)perylene	µg/L		
Benzo(b)fluoranthene	µg/L		
Benzo(a)pyrene	µg/L		
Benzo(a)anthracene	µg/L		
Anthracene	µg/L		
Acenaphthylene	µg/L		
Acenaphthene	µg/L		
2-Methylnaphthalene	µg/L		
TPH C10-C28	µg/L	0.1	
BTEX	µg/L		
Toluene	µg/L		
o xylene	µg/L		
m/p xylene	µg/L		
Et-Benzene	µg/L		
Benzene	µg/L		
Date			
1/24/2012	U		
2/21/2012	U		
3/19/2012	U		