SAE DEMONSTRATION

DRILL SITE	TYPICAL	FLAT	WELL VEGETATED
LW1-1		X	X
LW1-2		X	X
LW1-3		X	X
LW1-4		X	X
LW1-5		X	X
LW1-6		X	X
LW1-7		X	X
LW1-8			X
LW2-1			X
LW2-2			X
LW2-3		X	X
LW2-4			X
LW2-4B		X	X
LW2-5		X	X
LW2-6		X	X
LW2-6B		X	X
LW2-7		X	X
LW2-8		X	X
LW3-1			X
LW3-2			X
LW3-2A			X
LW3-3			X
LW3-4			X
LW3-5		X	X
LW3-6			X
LW3-7		X	X
LW3-8			X
LW3-9		X	X
LW3-10		X	X
LW3-11			X
LW3-12		X	X
LW4-1		X	X
LW4-2			X
LW4-3			X
LW4-4	X		X
LW4-5			X
LW4-6			X
LW4-7		X	X
LW4-8		X	X
LW4-9		X	X
LW4-10			X
LW4-11			X
LW4-12			X
LW4-13			X
LW4-14			X
LW4-15		X	X
LW4-16		X	X
LW4-17	X		X
LW5-1			X
LW5-2			X
LW5-3			X
LW5-4			X
LW5-5			X
LW5-6			X
LW5-6B	X		X
LW5-7		X	X
LW5-8		X	X
LW5-9		X	X
LW5-10		X	X
LW5-11			X
LW5-12			X
LW5-13			X
LW5-14		X	X
LW5-15			X
LW6-1		X	X
LW6-2	X		X
LW6-3		X	X
LW6-4		X	X
LW6-5	X		X
LW6-6			X
LW6-7	X	X	X
LW6-8		X	X
LW6-9		X	X
LW6-10			X
LW6-11			X
LW6-12			X
LW7-3		X	X
LW7-4		X	X
LW7-5			X
LW7-6			X
LW7-8	X		X
LW7-10	X	X	X
LW8-2			X
LW8-3			X
LW8-5		X	X
LW9-1			X
LW9-2	X	X	X
LW9-3			X
LW10-1		X	X
LW10-2		X	X
LW10-3		X	X
LW10-4		X	X
LW10-5		X	X
LW10-6			X
LW10-7		X	X
LW11-1		X	X
LW11-2		X	X
LW11-3	X		X
LW11-4		X	X
LW11-6	X		X
LW12-2	X		X
LW12-3		X	X
LW12-5	X		X
LWB7-1		X	X
LWB7-2		X	X
LWB7-3		X	X
LWB7-4		X	X
LWB9-2		X	X
LWB9-3		X	X
LWB10-1	X		
LWB10-2		X	
LWB10-3		X	
LWB10-4		X	
LWB11-1		X	
LWB11-2		X	
LWB11-3		X	
LWB11-4		X	
LWB12-1A	X		
LWB12-1		X	
LWB12-2		X	
LWB12-3		X	
LWB12-4		X	
LWB12-5		X	
LWB13-1		X	
LWB13-2		X	
LWB13-3		X	
LWB13-4		X	
LWB13-5		X	
LWB14-1		X	
LWB14-2		X	
LWB14-3		X	
LWB14-4		X	
LWB14-5		X	
LWB15-1		X	
LWB15-2		X	
LWB15-3		X	
LWB15-4		X	
LWB15-5		X	

Notes: XR - applicable once reclaimed.

SAE DEMONSTRATION

DRILL SITE	TYPICAL	FLAT	WELL VEGETATED
21013-19		X	X
21013-20		X	X
21014-21		X	X
21014-22		X	X
21014-23			X
21014-25		X	X
21014-26			X
21014-27		X	X
21014-29	NA - in D-Portal Area		
21014-30	NA - in D-Portal Area		
21014-31	NA - in D-Portal Area		
21014-32	NA - in D-Portal Area		
21014-34	NA - on blister		
310129-04		X	X
310129-17		X	X
310129-18		X	X
310130-17		X	X
310130-18			X
310130-19	X	X	X
310130-20		X	X
310130-21		X	X
310131-04		X	X
310132-17			X
310132-18			X
310132-19		X	X
310132-20		X	X
310132-21		X	X
310132-22		X	X
310132-23		X	X
310132-24		X	X
310133-18		X	X
310133-19		X	X
310133-21		X	X
310134-11		X	X
310135-09		X	X
310135-11		X	X
310117-2		X	
310117-3		X	
310117-4		X	
310118-3		X	
310118-4		X	
310118-6		X	
310118-7		X	
310118-8		X	
310118-10		X	
310119-18		X	
310119-19		X	
310119-22		X	
310119-23		X	
310119-24		X	
310120-15		X	
310120-16		X	
310120-17		X	
310120-18		X	
310120-20		X	
310121-14		X	
310121-15		X	
310121-16		X	
310121-17		X	
310121-18		X	
310121-19		X	
310121-20		X	
310122-5		X	
310122-6		X	
310122-7		X	
310122-8		X	
310122-10		X	
310123-1		X	
310123-2	NA - in Refuse Area 2/3/4		
310126-11		X	
310126-12	NA - in Refuse Area 5a		
310126-13		X	
310126-14		X	
310128-13		X	
310128-14		X	
SDH-1		X	X
SDH-2		X	
SDH-3	X		
SDH-4	X		
SDH-5		X	X
SDH-6		X	X
SH-1	X	X	
SH-2	X	X	
SH-4		X	
RDH-1	X		X
RDH-2	X	X	
RDH-3	X		
RDH-4		X	
B-Vent	X		
B-Vent #2	X	X	
B-Vent #3		X	
WMVS-1	X	X	
RS-1			X
RS-2			X
RS-3	X		X
RS-4		X	
RS-5		X	
RS-6		X	
RS-11L	X		
RS-12L	X		
RS-13L	X		
SC-SL1		X	X
SC-SL3		X	
SC-HG0	X		X
SC-HG11		X	
SC-HG17		X	
SC-HG20		X	
SC-HG26		X	
SC-HG30		X	
SC-HG33		X	
SC-HG44		X	
SC-HG54		X	
SC-HG56	X		
SC-HG59		X	
SC-TG29		X	
SC-TG33		X	
SC-TG46		X	
SC-TG53	X		
SC-TG56		X	
N7-53	X		
N8-12		X	
N8-21		X	
N8-36		X	
N8-51	X		
N8-55		X	
N9-12		X	
N9-26		X	
N9-38		X	
N9-57		X	
N9-62	X		
N10-12		X	
N10-26		X	
N10-38		X	
N10-53		X	
N10-62	X		
N11-15		X	
N11-28		X	
N11-43		X	
N11-58		X	
N11-71		X	
N12-12		X	
N12-26		X	
N12-38		X	
N12-53		X	
N12-67		X	
N14-9		X	
N14-13		X	
N14-17		X	
N14-22		X	
N14-26		X	
N14-31		X	
N14-36		X	
N14-41		X	
N14-45		X	
N14-48		X	
N14-53		X	
N14-57		X	

Notes: XR - applicable once reclaimed.

SAE DEMONSTRATION

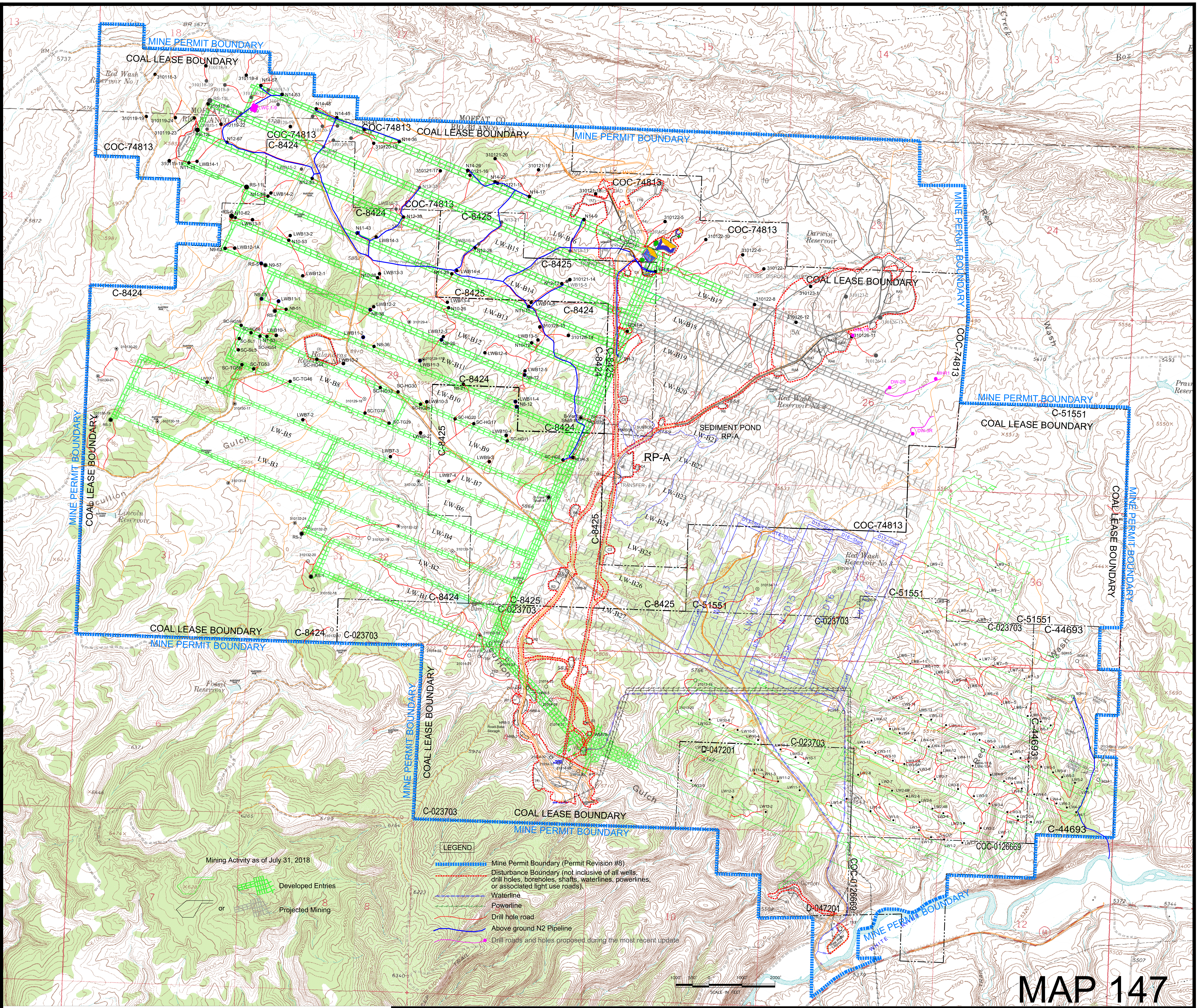
SOIL PILE	TYPICAL	LARGE	WELL VEGETATED
(4)			X
C-1	(a)		X
C-2	(a)		X
C-3	(a)		X
C-4	(a)		X
C-5	(a)		X
C-6	(a)		X
C-7	(a)		X
C-8	(a)		X
TS-1	(a)		X
TS-2	(a)		X
TS-3	(a)		X
TS-4	(a)		X
TS-5	(a)		X
TS-6	(a)		X
TS-7	(a)		X
R-1	(a)		X
R-2	(a)		X
R-3	(a)		X
R-4	(a)		X
R-5	(a)		X
R-6	(a)		X
R-7	(a)		X
R-8	(a)		X
RA-1	(a)		X
RA-2		(a)	X
RA-3		(a)	X
RA-4		X	
RA-5		X	
RA-6		X	
RA-7		X	
RA-8		X	
HRB-6	X		

Notes:

(a) Once redisturbed, the soil stockpiles will divert back to the "typical" or "large" demonstrations as applicable.

(4) D-Portal soil pile runoff to be diverted to sediment pond once redisturbed.

(z) Drill pad constructed but no hole was drilled.



* NOTE - Map 147 does not constitute approval of underground mining plan and permit boundary as shown on this map.
See Map 1 for current permit boundary and Map 120 for approved underground mining plan.

SMALL AREA EXEMPTION LEGEND

TS1-TS5	Miscellaneous topsoil piles.
C1-C7	Conveyor topsoil piles.
R1-R8	Haul Road topsoil piles.
RA1-RA8	Refuse Area soil piles.
SDH1-8	Mine dewatering well locations.
LWx-x	Mine degas borehole locations.
x101xx-x	Development drill hole locations.
RS1-RS6	Return Shaft locations.
RDH-x	Rock Dust borehole locations.
HRB-2-6	Haul Road blisters.
SH-x	Service hole.
SC-xxxx	Spontaneous combustion drill holes.
Nx-xx	Nitrogen injection/monitoring holes.
(1)	Water storage tank area.
(2)	Explosives storage area.
(3)	Halandras landfill area.
(4)	D Portal topsoil pile.
(5)	Radio Tower area.
(6)	East Portal area.
(7)	Haul Road X County Road 65 laydown area.
(8)	Transfer Station #1 area.
(9)	Transfer Station #1 staging/laydown area.
(10)	Laydown area northwest of Transfer Station #2.
(11)	Southern edge of Slot Storage staging area.
(12)	Transfer Station #2 to Slot Storage belt line.
(13)	Slot Storage - south drainage.
(14)	Slot Storage - east drainage.
(15)	Slot Storage - north drainage.
(16)	Slot Storage Emergency Discharge Tower and belt.
(17)	Western laydown area (#2) between Railroad Loop & Slot Storage.
(18)	Nitrogen Plant #2
(19)	Laydown area northeast of Slot Storage.
(20)	(deleted)
(21)	B-Vent Shaft #1.

No.	Revision	Date	Check
36	Added SH-4 (MR 164).	05/20/2015	
37	Added four exploration holes and relocated RS-12L shaft (MR 165).	07/30/2015	
38	Added seven exploration holes (MR 167).	07/30/2015	
39	Added B-Seam Dewatering #2 (TR 70).	09/30/2016	
40	Added 15 exploration, LWB15-x, N13-x, and RS-13L pilot hole. Removed 310122-9 (MR 171).	05/31/2017	
41	Modified routes for N2 Lines (HDPE pipe), added HDPE pipe waterlines.	08/16/2018	
42	Added 12 Nitrogen injection and sampling holes. (MR 176)	05/20/2020	
43	Added 2 Water injection holes. (MR 177)	07/28/2020	
44	Added 3 Dewater holes and one well monitoring hole.	01/05/2021	
45	Added 9 Longwall Core holes.	01/19/2021	

No.	Revision	Date	Check
11	Addition of degas boreholes for longwall panel LWB-8 (Revised to LWB-9 with Rev. 18)	04/19/2006	
12	Expanded permit area	12/06/2006	
13	Addition of B-Vent Shaft #2, SH-1, SH-2	4/16/2007	
14	Addition of LWB8 fire holes (SC-xxxx) for air sampling/N2 injection & nitrogen pipeline(MR133).	2/29/2008	
15	Addition of LWB10-1 through LWB10-4 and removal of LWB8-1 degas boreholes (TR66)	2/29/2008	
16	Relocation of LWB10-1, add RS-4 (MR #134) and changed permit boundary per PR #6	5/1/2008	
17	Relocation of LWB10-1 and RS-4 (MR #135)	7/14/2008	
18	Addition of N7-53, N8-51, N8-36, and N8-21 nitrogen injection/monitoring holes (MR #136)	8/11/2008	
19	Addition of B-Vent Shaft #3 (MR #137)	9/9/2008	
20	Addition of N9-56 nitrogen injection/monitoring hole	7/8/2009	
21	Add five 'N' hole, four LWB11 holes, RS-5, road from haul road to RDH-3	8/20/2009	
22	Show access routes to older drill holes, revised water line routing @ RW Lagoon (MR #143)	3/24/2010	
23	Added Service Hole SH-3 (MR #144)	9/01/2010	
24	Added four N10 holes, five LWB12 holes, and associated roads and N2 pipelines (MR #145).	01/19/2011	
25	Adjusted disturbance area boundary for B-seam dewatering system at SH-3 (TR #68).	01/19/2011	
26	Re-added N2 pipeline back to N8-21 (MR #146).	04/18/2011	
27	Added Return Shaft RS-6 and drill holes N9-62 and LWB12-1A (MR-148)	8/10/2011	
28	Added N2 pipeline to remaining N10-XX holes.	2/16/2012	
29	Added RDH-4 and breathable air hole facilities.	5/22/2012	
30	Added one N10 hole, four N11 holes, five LWB13 holes, & four development holes (MR #156)	8/19/2013	
31	Added return shaft - RS-11L (TR#69)	8/26/2013	
32	Revised locations for RS-11L, N10-62 and LWB13-1 (MR#158)	11/18/2013	
33	Added five exploration holes in LW-B13 and LW-B15, added segment of N2 line (MR#159)	06/05/2014	
34	Added Nitrogen Plant #2 and rerouting of N2 lines (MR#160 and MR#161)	09/03/2014	
35	Added 9 exploration, 5 LWB14-x, 6 N11-71 and N12-xx, and RS-12L. Removed 2 expl holes.	01/11/2015	

No.	Revision	Date	Check
1	TR-53	04/23/2001	
2	MR-121 Addition of 3 drill holes in Sec. 30	05/03/2001	
3	TR-56 Removal of railroad from mine disturbance boundary	08/20/2001	
4	MR-122 Designation of SAEs for soil piles and drill sites	09/27/2001	
5	Removal of railroad from mine disturbance boundary	10/18/2001	
6	Refinement of disturbance boundary around loadout	12/03/2001	
7	Addition of Return Shaft RS-3	05/21/2002	
8	Addition of HRB-6 & new disturbance @ HR/CR65 intersection & new water line along CR65	04/12/2004	
9	Addition of degas boreholes for longwall panel LWB-7	03/29/2005	
10	Addition of Rock Dust Hole RDH-3	06/29/2005	

BLUE MOUNTAIN ENERGY, INC.

DESERADO MINE RANGELY, COLORADO

SMALL AREA EXEMPTIONS LOCATION MAP

Dwg. by: MPM	Dwg. File Name: MAP147 - MR176.dwg on - Map147 - base.dwg
Chk. by:	Appr. by:
Scale : 1" = 1000'	Date: 1/19/2021