BLAST REPORT **BLAST REPORT #** WS 05

☐ Sanders Construction, Inc. ☒ Western States Drilling & Blasting, Inc.

DATE: 7-1-10 EXACT TIME OF SHOT: 8:07 pm

CUSTOMER: KLB JOB NO.: WS 21005

SHOT LOCATION WITH GPS COORDINATES: Presplit LW1315 - 1315+75 TICKET NO.:

CHECK LIST COMPLETED: (YES) NO

TYPE OF ROCK: FACE HEIGHT: — FT. POUNDS PER DELAY: 50.1 max

TOTAL HOLES: 31

NUMBER OF HOLES: 31 HOLE DIA: 3.5" BxS 30" Centers STEMMING: 5' DEPTH: 32'

NUMBER OF HOLES: — HOLE DIA: — BxS — x — STEMMING: — DEPTH: —

POWDER FACTOR: LBS. OF EXPLOSIVES: 165 YARDS OF ROCK: — 75 LF Presplit 992 LF Drilling

WEATHER: PCloudy 53° WIND: 3-5 mph/W

EXACT MONITOR LOCATION(GPS): LW 1320 presplit line DIRECTION OF BLAST: W NO TRIGGER MONITOR TYPE: EXAD 8

MONITOR: L/R — T — V — PVS — Db MONITOR SERIAL NO.: 829

DISTANCE TO BLAST: 425' AVERAGE POUNDS PER HOLE: 7.17 OPERATOR: V Bronson

EXACT MONITOR LOCATION(GPS): Not used DIRECTION OF BLAST: — MONITOR TYPE: —

MONITOR: L/R — T — V — PVS — Db MONITOR SERIAL NO.: —

DISTANCE TO BLAST: — AVERAGE POUNDS PER HOLE: — OPERATOR: —

EXPLOSIVES

DESCRIPTION	QUANTITY USED	DATE CODE	MAGAZINE	REMOVED	RETURNED
LOCATION:					
BULK A/N	Lbs				
BAG ANFO	Bags				
POWDER	ea.				
POWDER	ea.				
lb. BOOSTER	ea.				
lb. BOOSTER	ea.				
12' 9ms ft. Exel T&D	6 ea.	31my04b4		63	57
ft.	ea.				
ft.	ea.				
ft.	ea.				
ft.	ea.				
ft.	ea.				
ft. ms	ea.				
Lead in line	2500 ft.	11JA10b4		1 Roll	∅
50 GRAIN CORD	80 ft.	16FE09T4			
25 GRAIN CORD	224 ft.	J5JA10T4		804'	573'
MISCELLANEOUS					
7/8" Setual Powersplit	165 lbs	091001		330	165

COMMENTS: BLAST PRODUCED A NORMAL SURFACE CRACK ALONG THE ENTIRE 75' LONG LINE WITH MINIMAL NOISE & THROW. CKM

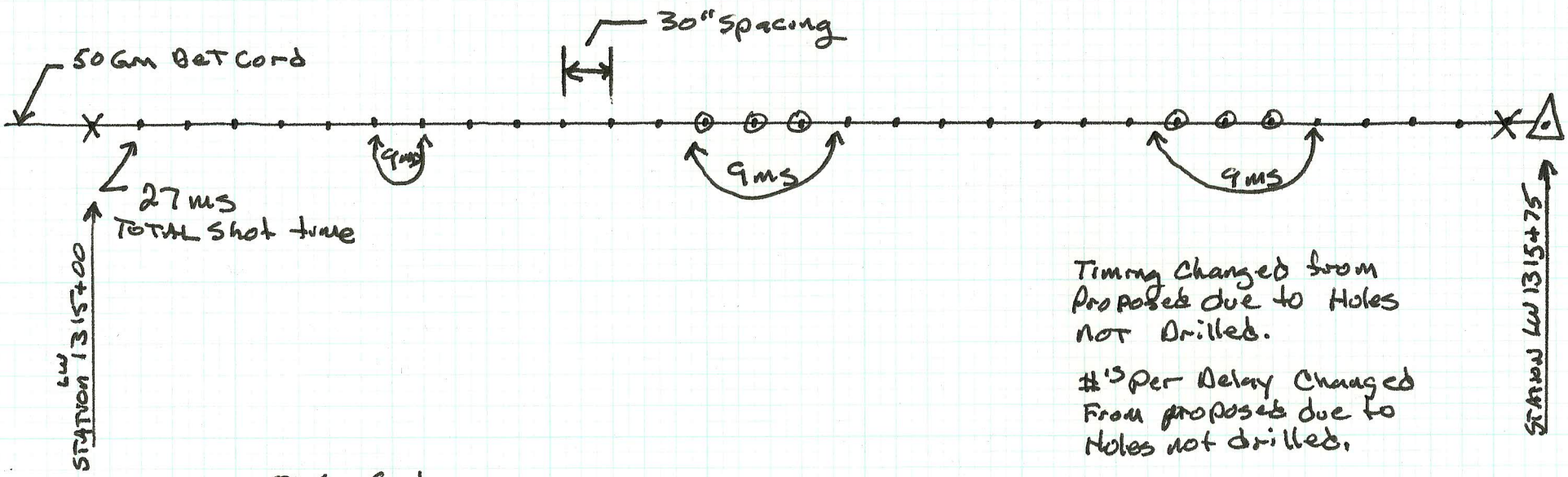
BLASTER'S SIGNATURE: [signature] LICENSE NO.: U 21262 WASH.

ATTACH SKETCH OF SHOT

Revised 03/04

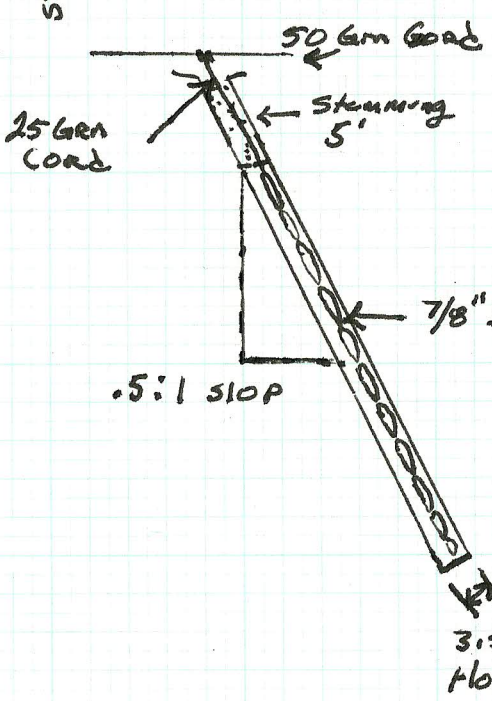
THIS FORM MUST BE FILLED OUT COMPLETELY

SHOT 05 7-1-10



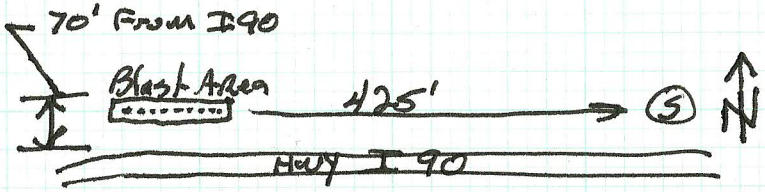
Timing Changed from Proposed due to Holes NOT Drilled.

#'s Per Delay Changed From proposed due to Holes not drilled.



Stemming Increased due to Overburden higher than Expected

△ = Initiation Point
X = Hole not loaded
⊙ = not Drilled (Hit dirt NO Rock)
Ⓢ = Sreismograph Location



Western States Drilling Blasting Drill Log

Shot #: 05 Presplit

Date: 6-30-10 / 7-1-10

Drill # 059

Driller Name Dennis Gowden

Hole #	P=Production S=Presplit E=Explore B=Bolders	Depth Drilled	Depth to Rock	Voids at What Depth	Notes W=Water
1	S	32'	9'		Station # LW 1315+00
2	S	32'	6'	21'	Rock 6'-15' Brown / 15'-32' Gray / Seam @ 21'
3	S	32'	6'	21'	Rock 6'-15' Brown / 15'-32' Gray / Seam @ 21'
4	S	32'	6'		6'-10' Gray / 10'-14' Brown / 14'-32' Gray
5	S	32'	12'	21'	Gray 12'-32'
6	S	32'	6'		Gray 6-32'
7	S	32'	26'		Gray 26'-32'
8	S	32'	26'		Gray 26'-32'
9	S	32'	27'		Gray 27'-32'
10	S	32'	32'		All soft NO Rock
11	S	32'	32'		All soft NO Rock LW 1315+27.50
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					

Drilled 6-30-10

Drilled 7-1-10

Western States Drilling Blasting Drill Log

Shot #:_____ Date: July 1 2010

Drill # Driller Name [illegible]

Hole #	P=Production S=Presplit E=Explore B=Bolders	Depth Drilled	Depth to Rock	Voids at What Depth	Notes W=Water
1					
2					
3					
4					
5					
6					
7					
8					
9	S	32	0		DIRT
10	S	32	0		DIRT
11	S	32	0		DIRT
12	S	32	0	0	SOME WET
13	0 S	19	0	0	~~SKIP~~
14	0			0	SKIP
15	0			0	SKIP
16	0			0	SKIP
17	S	35	4	0	ROCK FAIR
18	S	32	1	0	SMALL SEAMS
19	S	22	0	0	" " "
20	S	32	0	YES	LARGE SEAM
21	S	32	0	0	ROTTEN 20 DIRT
22	S	32	5	0	MOSTLY DIRT
23	S	18		0	DIRT
24	0			0	
25	0			0	SKIP
26	0			0	LARGE SEAMS
27	S	32	2	0	" " " "
28	S	32	2	0	ROCK BOTTOM HOLE
29	S	32	2	0	ROCK
30	S	32	2	0	ROCK
31	S	32	2	0	ROCK
32					
33					
34					
35					
36					
37					
38					
39					
40					

Western States Drilling Blasting Drill Log

Shot #: 05 Date: 7-1-10

Drill # 059 Driller Name Dennis Gouden / Lonnie Vickers Chuc tend

Hole #	P=Production S=Presplit E=Explore B=Bolders	Depth Drilled	Depth to Rock	Voids at What Depth	Notes W=Water
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12	S	32	Ø	Ø	Some wet
13	S	19	Ø	Ø	Hole slufted IN
14	—	—	—	—	not Drilled moved 10' to
15	—	—	—	—	East to find Rock
16	—	—	—	—	
17	S	35	4		Rock fair
18	S	32	1		Small seams
19	S	32	Ø		" "
20	S	32	6	Yes	Large Seam
21	S	32	6		Bottom 20' Dirt
22	S	32	5		mostly Dirt
23	S	18			Dirt
24	—	—	—	—	NOT Drilled moved 10' to
25	—	—	—	—	East to look for Rock
26	—	—	—	—	
27	S	32	2		Rock
28	S	32	2		
29	S	32	2		
30	S	32	2		
31	S	32	2		
32					
33					
34					This log Rewritten
35					to clearity by VRB
36					
37					
38					
39					VRB
40					

Check List

Date 7-1-10

Job Number WS ~~05~~ 21005

Shot Number WS 05

1. BEFORE BLASTING

NOTIFICATION

- [ ] Fire Department
- [ ] Utilities
- [ ] Businesses & Home Owners
- [ ] ~~Seismograph Tech~~
- **Other (List)**

MATERIAL & EQUIPMENT

- [x] Adequate Stemming Material
- [ ] Warning Signs
- [ ] Warning Signals
- [ ] Safe Amount of Lead Line
- [ ] Seismograph Paper, Pens, etc.
- [ ] Fire Extinguishers (charged)
- [ ] Adequate Blasting Shelter
- [ ] ~~Mats (If Applicable)~~

SHOT DESIGN

- [x] Pattern OK for Area
- [ ] Sufficient Burden to Face
- [ ] Reviewed drill logs
- [ ] Measured Depth, Burden & & Spacing
- [ ] Shot Area Posted & Secure
- [ ] Shot Diagramed on Back

2. DURING LOADING

CONSTANT CHECKS

- [ ] Explosives
- [ ] Running Inventory
- [ ] Access Row Empty
- [ ] Drills & Traffic 50' Away
- [ ] Shot can be fired in case of emergency

All Holes to be checked & approved

- [ ] ~~Blaster~~ initial
- [ ] Supt initial

3. DETONATION

HOOK - UP

- [ ] All Unnecessary Crew Cleared
- [ ] All Holes Loaded & Stemmed
- [ ] Hand Check tubing Before Each Connection
- [ ] Visually Insured That Each Connection is Snapped

SECURE AREA

- [ ] Set up Seismograph
- [ ] Est. Checkpoints at Each Access
- [ ] Radio Communication with Checkpoints.
- [ ] Cleared People, Vehicles & Equipment
- [ ] Visual Coverage of Entire Site
- [ ] Five Minute Warning
- [ ] One Minute Warning

4. AFTER DETONATION

POST BLAST CHECK

- [ ] Waited for Dust & Funes to Dissipate
- [ ] Walked Entire Area of Shot
- [ ] Insured that tail Surface Delays Fired at the End of Each Row
- [ ] Sounded All Clear Signal

LEGAL DOCUMENTATION

- [ ] Completed Shot Report
- [ ] Diagramed Shot w/ Seismograph Location (Direction & Distance)
- [ ] Recorded Seismic Results on Blast Report
- [ ] Final Inventory of Explosives Recorded
- [ ] Ticket Number Assigned By Job Supervisor
- [ ] Signed Blast Report w/ License No.

Supt has checked and verified that all has been completed and shot area is ready for loading

Supt initial