

Geotechnical Engineering Environmental Engineering Construction Material Testing Subsurface Exploration Special Inspection

Matt Zarecor, P.E., Assistant County Engineer Spokane County Public Works 1026 W. Broadway Avenue Spokane, WA 99201

July 24, 2017

Job Number X17428

### PROJECT: Old Corral Pit Spokane, WA

SUBJECT: Results of Subsurface Exploration of Fill Material

This report presents the results of test pit exploration to evaluate fill materials located at the Old Corral Pit. The work was requested to help determine the extent and depths of the fill material located at the site. A vicinity map, site plan, photographs and test pit logs are attached to this report.

We logged 18 test pits at the Corral Pit on 19 & 20 July 2017 throughout the property. The pits were excavated by County Personnel using a John Deer 180G with a 36" bucket. The pits were excavated to depths until native materials were observed, to the maximum capability or the excavator, or until caving of the pits did not allow for further excavation. The conditions encountered are described in the test pit logs and are illustrated in the attached photographs.

We appreciate the opportunity to be of service. If you have any questions please don't hesitate to call.

Respectfully Submitted: BUDINGER & ASSOCIATES

Derry D. Callender Staff Geologist

Attachments:

- 1. Site Plan
- 2. Test Pit Logs
- 3. Photographs

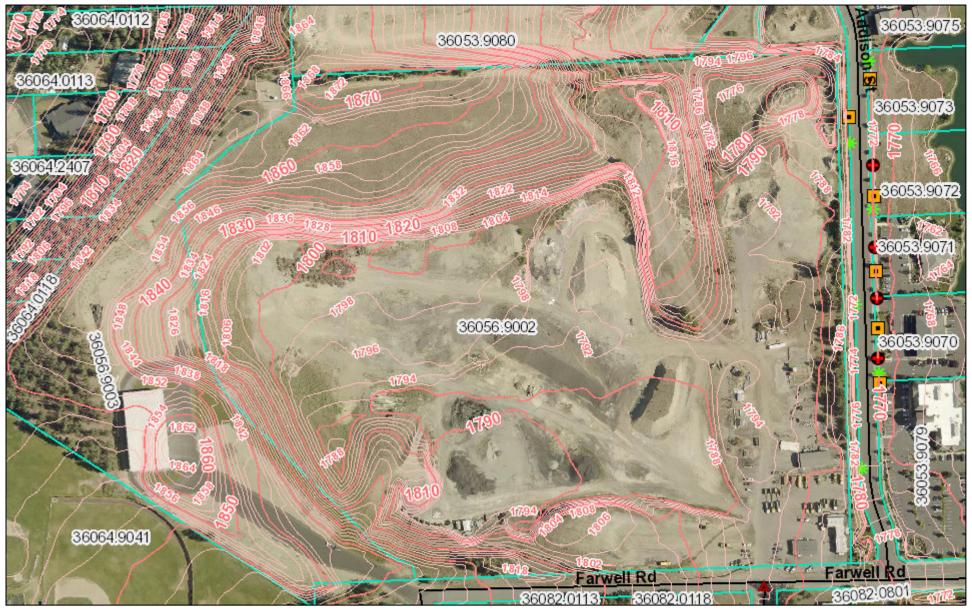
SBuchet

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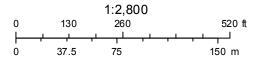
www.budingerinc.com

# Spokane County Public Works



July 21, 2017

Test Pit Elevations Estimated From This Topographic Map



An Elevation Survey is Recommended if More Accurate Elevations are Needed



			TE	ST PIT 1			
Ex Eq Lo	ite: cavator: uipment: cation: rface:	7-19-17 Spokane County CAT 180G w/ 36" buck Location 1 gravel	ket	Elevation: 1804 ft Logged by: DDC Size of hole: 5' x 25'			
o DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DES	CRIPTION	SOIL LOG		
		dry, gray, very dense	GRAVEL with Sand a	and Silt (fill)			
		dry, brown, dense	SAND with Gravel ar occasional Boulder w subangular (FILL) (wood debris at 4 ft)	nd Silt, Cobbles, vith Debris, coarse to fine,			
······			(asphalt pieces 6 to 9	9 ft)			
<u>10</u>		no free groundwater observed	(large asphalt & cond could not advance pa	srete, very large pieces ast 14 ft)			
····· -			End of Exc	avation @ 14 ft			
<u>   15</u> 							
20							
		Budinger		TEST PIT LO		FIGURE 2-1	
	IR	& Associates		Project: Old Corral I			
		1101 North Fancher Road Spokane Valley, WA 99212		Location: Spokane,	WA		
				Number: X17428			

			TEST PIT 2		
Ex Ec Lo	ate: ccavator: quipment: ocation: urface:	7-19-17 Spokane County CAT 180G w/ 36" buck Location 2 gravel	ket	Elevation: 178 Logged by: DI Size of hole: 4	DC
DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG	
0		dry, brown, gray, dense	GRAVEL with Sand, coarse, subangular subrounded, (Fill)		
 5		dry, brown, moderately dense	SAND with Gravel (in 2" seems), coarse medium, subangular to subrounded (Nati Sands)	to	
			End of Excavation @ 7 ft		
		no free groundwater observed			
<u>   15    </u>					
20					
20					
		Budinaer	TEST PIT		FIGURE 2-2
X1/42	<b>IB</b>	Budinger & Associates	Project: Old Co		
12		1101 North Fancher Road Spokane Valley, WA 99212	Location: Spok		
Ë			Number: X174	28	

			IESI PII 3				
Ex Ec Lo	ate: xcavator: quipment: ocation: urface:	7-19-17 Spokane County CAT 180G w/ 36" buc Location 3 gravel	I	Elevation: 1793 Logged by: DD Size of hole: 4	)C		
DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG			
0		dry, gray, very dense	Silty GRAVEL with Sand, coarse, subangula to subrounded (FILL)	ar 💥			
		dry, brown, gray, dense	GRAVEL with Sand and Cobbles, occasiona Boulder, coarse, subangular to subrounded (Native Gravel)				
<u> </u>		no free groundwater observed	(coarser gravel and more cobbles at 5 ft)				
			End of Excavation @ 8.5 ft				
10			End of Excavation @ 8.5 it				
15							
20							
20					FIGURE 2-3		
	B	Budinger & Associates	TEST PIT L Project: Old Corr		1 IGUNE 2-3		
	<b>ID</b>	1101 North Fancher Road	Location: Spokar				
	Spokane Valley, WA 99212			Number: X17428			

			TE	ST PIT 4				
Ex Eq Lo	ate: ccavator: juipment: ocation: irface:	7-19-17 Spokane County CAT 180G w/ 36" buck Location 4 gravel	ket	Elevation: 1790 ft Logged by: DDC Size of hole: 4' x 6'				
DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DES	CRIPTION	SOIL LOG			
0		dry, gray, very dense	GRAVEL, coarse, sul	pangular (Fill)				
		dry, gray, brown, dense	GRAVEL with Sand, occasional Boulder, o to subrounded (Nativ	oarse to fine, subangular				
			End of Exc	cavation @ 4 ft				
5		no free groundwater observed						
10								
15								
		Rudinger		TEST PIT LO	GS	FIGURE 2-4		
1/428	B	Budinger & Associates		Project: Old Corral				
× 114		1101 North Fancher Road Spokane Valley, WA 99212		Location: Spokane,	WA			
IEQ	Spokane Valley, WA 99212			Number: X17428				

		TEST PIT 5			
Date: Excavator: Equipment: Location: Surface:	7-19-17 Spokane County CAT 180G w/ 36" buc Location 5 grass & weeds	I	Elevation: 1794 ft Logged by: DDC Size of hole: 6' x 14'		
SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG		
0	dry, brown, moderately dense	GRAVEL with Sand, Cobbles and Silt and Debris, coarse, subangular to subrounded (Fill)			
5		(asphalt pieces 4 to 7 ft)			
	dry, brown, gray, dense	(metal debris at 6 ft) GRAVEL with Sand, Cobbles and Silt, occasional Boulder, coarse to fine, subangu to subrounded (Native Gravel)			
<u>10</u>	slightly moist	(slightly moist at 10 ft)			
	no free groundwater observed	End of Excavation @ 12 ft			
<u>15</u>					
20					
B	Budinger & Associates 1101 North Fancher Road Spokane Valley, WA 99212	TEST PIT L Project: Old Corr Location: Spokar Number: X17428	al Pit ne, WA	FIGURE 2-5	

Date:7-19-17Excavator:Spokane CountyEquipment:CAT 180G w/ 36" bucketLocation:Location 6, Top of excavation at 1,808Surface:grasss & weeds

#### Elevation: 1808 ft Logged by: DDC Size of hole: 6 x 24'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPT	ION	SOIL LOG	
0		dry, gray, brown, very	COBBLES & GRAVEL, with	Sand and Silt	~~	
		dense	(Fill)	×		
		dry, brown, dense	GRAVEL with Sand, Cobble Debris, coarse, subangular t (Fill)			
			(rm)			
5			(dark gray ash or silt pocket pit, 2 feet thick)	on west side of		
<u> </u>						
		dry, brown, dense	GRAVEL with Sand, Cobble coarse, subangular to subro	s & Boulders,		
			(24 inch basalt boulder at 8	l l l l l l l l l l l l l l l l l l l		
10			(basalt cobbles and boulders (piece of sewer pipe)	s from 9 to 11 ft)		
			(,			
			GRAVEL with Sand, Silt, Co Boulder, coarse to fine, suba subrounded (Likely Native G	angular to	XXXX	
15			(28 inch rounded boulder at	14 ft)		
		no free groundwater observed	End of Excavation	@ 12.5 ft		
20			ТЕ	ST PIT LOG	 S	FIGURE 2-6
		Budinger & Associates		ect: Old Corral Pi		
	P	& Associates		ition: Spokane, W		
		Spokane Valley, WA 99212		ber: X17428		

			TEST PIT 7				
Ex Eq Lo	ite: cavator: uipment: cation: rface:	7-19-17 Spokane County CAT 180G w/ 36" buc Location 7 gravel	L	Elevation: 1799 ft Logged by: DDC Size of hole: 6 x 24'			
o DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	Soll LOG			
		dry, gray, very dense	GRAVEL with Sand, Silt and Cobbles, coarse subangular to subrounded (Fill)	, 💥			
  <u>5</u>		dry, brown, gray, very dense	GRAVEL with Sand, Silt, occasional Cobbles and Boulders, coarse, subangular to subrounded (Native Gravel)				
			End of Excavation @ 6 ft				
		no free groundwater observed					
10							
15							
20							
			TEST PIT LO	DGS	FIGURE 2-7		
	IR	Budinger & Associates	Project: Old Corra				
		1101 North Fancher Road	Location: Spokane				
		Spokane Valley, WA 99212	Number: X17428				

Date:7-19-17Excavator:Spokane CountyEquipment:CAT 180G w/ 36" bucketLocation:Location 8, Top of excavation at 1,820Surface:gravel, grass & weeds

#### Elevation: 1820 ft Logged by: DDC Size of hole: 6 x 20'

		g.a.e., g.aee a meeue				
	щ	MOISTURE, COLOR, CONDITION			g	
DEPTH	SAMPLE		DES	CRIPTION	SOIL LOG	
	SA	SON SON			SOI	
0		20				
		dry, brown, dark brown, dense	GRAVEL with Sand, Boulders with Debris	Silt, Cobbles and , coarse, subangular to		
		dense	subrounded (Fill)	, coarse, subarigular to		
			(asphalt pieces 2 1/2	to 3 1/2 ft)		
			(dark brown silt and g ft)	gravel) from 3 1/2 ft to 14		
			7			
5						
10						
15		dry, brown, very dense	COBBLES & GRAVE coarse, subrounded,	L with Sand and Silt, (Native Gravel)	it,	
		no free groundwater	(brown/orange clay a		A	
		observed		avation @ 16 ft		
24/17						
₿						
L'GP.						
20 AR				r		
1155T PIT X17428 OLD CORRAL PIT GPJ 7/24/17		Dudinaar		TEST PIT LO	GS	FIGURE 2-8
7428 (	B	Budinger & Associates		Project: Old Corral F	Pit	
X		& Associates 1101 North Fancher Road		Location: Spokane,		
LI LI		Spokane Valley, WA 99212		-		
Ű				Number: X17428		

		TEST PIT 9		
Date: Excavator: Equipment: Location: Surface:	7-20-17 Spokane County CAT 180G w/ 36" buc Location 9, Top of exc grass & weeds	ket	Elevation: 1806 ft Logged by: DDC Size of hole: 8' x 20'	
SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	Soll LOG	
···· ····	dry, brown, dense	GRAVEL with Sand, Silt and Cobbles and Boulders with Debris, coarse to fine, subangular (Fill) (likely Native Gravels below 6 ft in the bank)		
		(metal rebar) (very large boulders at 14 ft at base of bank		
<u>-</u>	moist, brown, gray, dense	48") GRAVEL with Sand, Cobbles and Boulders, coarse, subangular to subrounded (Native Gravels below interface of slope/level grade		
	no free groundwater observed	End of Excavation @ 18 ft		

Budinger & Associates 1101 North Fancher Road Spokane Valley, WA 99212

DEPTH

0

5

10

15

7/24/17

TEST PIT X17428 OLD CORRAL PIT.GPJ

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## TEST PIT LOGS

FIGURE 2-9

Project: Old Corral Pit Location: Spokane, WA

Number: X17428

			TES	ST PIT 10				
Ex Eq Lo	nte: cavator: juipment: cation: irface:	7-20-17 Spokane County CAT 180G w/ 36" buck Location 10 gravel & silt	ket	Elevation: 1828 ft Logged by: DDC Size of hole: 8' x 20'				
DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DES	SCRIPTION	Solt LOG			
0		dry, brown, dark brown, moderately dense	SILT and SAnd with Debris (street sweap	Gravel, Cobbles and ings)				
			(light debris from 2 to stryrofoam pieces, p	o 13 feet: sticks, plastic, aper)				
······ ······								
			(large cobbles at 12 (log at 12 1/2 ft)	ft)				
<u>15</u>		slightly moist, brown, gray, dense	Silty GRAVEL and C	OBBLES with Sand, — (Likely Native Gravels)				
/1/47// C			End of Exc	cavation @ 18 ft				
20		no free groundwater observed						
00000000000000000000000000000000000000	B	Budinger & Associates 1101 North Fancher Road Spokane Valley, WA 99212		TEST PIT LC Project: Old Corra Location: Spokane Number: X17428	ll Pit	FIGURE 2-10		

Ex Eq Lo	te: cavator: uipment: cation: rface:	7-20-17 Spokane County CAT 180G w/ 36" buc Location 11 gravel	Elevation: 1786 ft   Logged by: DDC   sket   Size of hole: 7' x 12'				
DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCR	IPTION	SOIL LOG		
0		dry, brown, gray, dense	Silty GRAVEL with Cobb occasional Boulder, coar subrounded (Native Grav	rse, subangular to vels)			
<u> </u>		no free groundwater observed					
20	B	<b>Budinger</b> & Associates 1101 North Fancher Road Spokane Valley, WA 99212	Pi Lo	<b>EST PIT LO</b> roject: Old Corral I ocation: Spokane, umber: X17428	Pit	FIGURE 2-11	

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			TE	ST PIT 12		
Ex Ec	ate: xcavator: quipment: ocation: urface:	7-20-17 Spokane County CAT 180G w/ 36" bucket Location 12 gravel			Elevation: Logged by: Size of hole	DDC
o DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DE	SCRIPTION	Soll Log	
  5		dry, brown, gray, loose	SAND with Gravel, o subangular to subro	coarse to medium, unded (Native Sands)		
10 10 15 15 15 15		no free groundwater observed	End of Exc	cavation @ 5.5 ft		
20 20				TEST PIT L	.OGS	FIGURE 2-12
Budinger & Associates 1101 North Fancher Road Spokane Valley, WA 99212			Project: Old Corr Location: Spokar Number: X17428	ral Pit ne, WA		

		TEST PIT 13		
Date: Excavator Equipmen Location: Surface:		cket	Elevation: 1786 Logged by: DDC Size of hole: 5' x	
DEPTH	MOISTURE, COLOR, CONDITION	DESCRIPTION	90IL LOG	
0   5   10	dry, brown, gray, dense	GRAVEL with Sand, Silt and Cobbles, occasional Boulder, coarse, subangular to subrounded (Native Gravel)		
 15  20	no free groundwater observed	End of Excavation @ 10 ft		
Ę	Budinger & Associates 1101 North Fancher Road Spokane Valley, WA 99212	Location: Spok	orral Pit kane, WA	FIGURE 2-13

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			IESI PII 14				
Ex Ec Lo	ate: ccavator: quipment: ocation: urface:	7-20-17 Spokane County CAT 180G w/ 36" buck Location 14 bare	I	Elevation: Logged by: Size of hole	DDC		
o DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	Soll Log			
0		dry, brown, dense	Silty GRAVEL and COBBLES, with Sand, coarse, subangular (Fill)				
 5 		dry, dark brown, loose	Silty SAND with Gravel and Cobbles with Debris, occasional Boulder, fine, subangular (Fill) (metal strip)				
10			(metal)				
			(wood debris)				
		no free groundwater	(caved twice at 12 ft, terminated pit due to collapse)				
		observed	End of Excavation @ 12 ft				
15							
_20							
20							
		Budinaer	TEST PIT L		FIGURE 2-14		
	<b>IR</b>	Budinger & Associates	Project: Old Corr				
		1101 North Fancher Road Spokane Valley, WA 99212	Number: X17428	Location: Spokane, WA			

**TEST PIT 14** 

			TES	ST PIT 15		
Ex Ec Lo	ate: ccavator: juipment: cation: irface:	7-20-17 Spokane County CAT 180G w/ 36" bucl Location 15, Top of ex grass and weeds			04 ft DDC '' x 14'	
DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DES	CRIPTION	SOIL LOG	
0		dry, brown, gray, loose	Silty SAND with Grav fine, subangular (Fill) SAND with Gravel, o coarse, subangular to Native Sand)	ccasional Cobble,		
<u>    10                                </u>		no free groundwater observed	End of Exc	avation @ 11 ft		
15 						
TEST PIT X17428 OLD CORRAL PIT.GPJ	B	<b>Budinger</b> & Associates 1101 North Fancher Road Spokane Valley, WA 99212	<u> </u>	TEST PIT I Project: Old Con Location: Spoka Number: X1742	rral Pit ane, WA	FIGURE 2-15

			TES	ST PIT 16		
Date: Excavator: Equipment: Location: Surface:		7-20-17 Spokane County CAT 180G w/ 36" buc Location 16 gravel burms	ket	Elevation: 1792 ft Logged by: DDC Size of hole: 9' x 14'		
DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DES	CRIPTION	SOIL LOG	
0   5 		dry, dark brown, loose	Cobbles and Debris, subangular (Fill with o (asphalt) (electric conduit and v cable) SAND with Gravel (fir	Silty GRAVEL with San coarse to fine, debris) very long steel guard ra ne) and Silt, occasional ngular to subrounded	ail	
		dry, brown, gray, dense	GRAVEL with Sand, coarse to fine, suban	gular to subrounded		
<u>   10                                 </u>		no free groundwater observed	(Possible Native Grav (digging terminated a End of Exc			
<u>15</u>						
20						FIGURE 2-16
_20	B	<b>Budinger</b> & Associates 1101 North Fancher Road Spokane Valley, WA 99212		TEST PIT L Project: Old Corr Location: Spokar Number: X17428	al Pit ne, WA	FIGURE 2-10

			TES	T PIT 17			
Ex Eq Lo	ate: ccavator: quipment: ocation: urface:	7-20-17 Spokane County CAT 180G w/ 36" buc Location 17 grass & weeds	ket		Elevation: Logged by Size of hol	: DDC	
DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESC	CRIPTION	Soil Log		
0		dry, brown, loose	Silty GRAVEL with Co Debris, coarse, suban (Fill with Debris) (wood debris at 2 ft) (metal rebar at 2 1/2 ft (asphalt at 3 ft)	gular to subrounded			
		dry, brown, loose	Silty GRAVEL with Sa coarse to fine, subang	jular to subround (Fi	"		
<u>    10                                </u>		no free groundwater observed	coarse to fine (Possib not determine due to d	le Native Gravel - co			
15							
20			 -	TEST PIT	LOGS	FIGURE 2	-17
	B	<b>Budinger</b> & Associates 1101 North Fancher Road Spokane Valley, WA 99212		Project: Old Co Location: Spok Number: X1742	ane, WA		

			TEST PIT 18		
Equ Loc	te: cavator: uipment: cation: face:	7-20-17 Spokane County CAT 180G w/ 36" buc Location 18 grass & weeds	ket	Elevation: 179 <sup>4</sup> Logged by: DD Size of hole: 4';	C
DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG	
0		dry, brown, gray, dense	GRAVEL with Sand, Cobbles and Silt, occasional Boulder, coarse, subangular subrounded (Native Gravel)		
5		no free groundwater observed	End of Excavation @ 5 ft		
 10					
15					
20					
	B	<b>Budinger</b> & Associates 1101 North Fancher Road Spokane Valley, WA 99212	TEST PIT Project: Old C Location: Spo Number: X17	Corral Pit okane, WA	FIGURE 2-18