



Budinger & Associates

Proudly serving the Inland Northwest since 1976

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 Deere 180G with a 36" bucket. The pits were excavated to depths until native materials were observed, to the maximum capability of 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

Stephen D. Burchett, PE
Principal

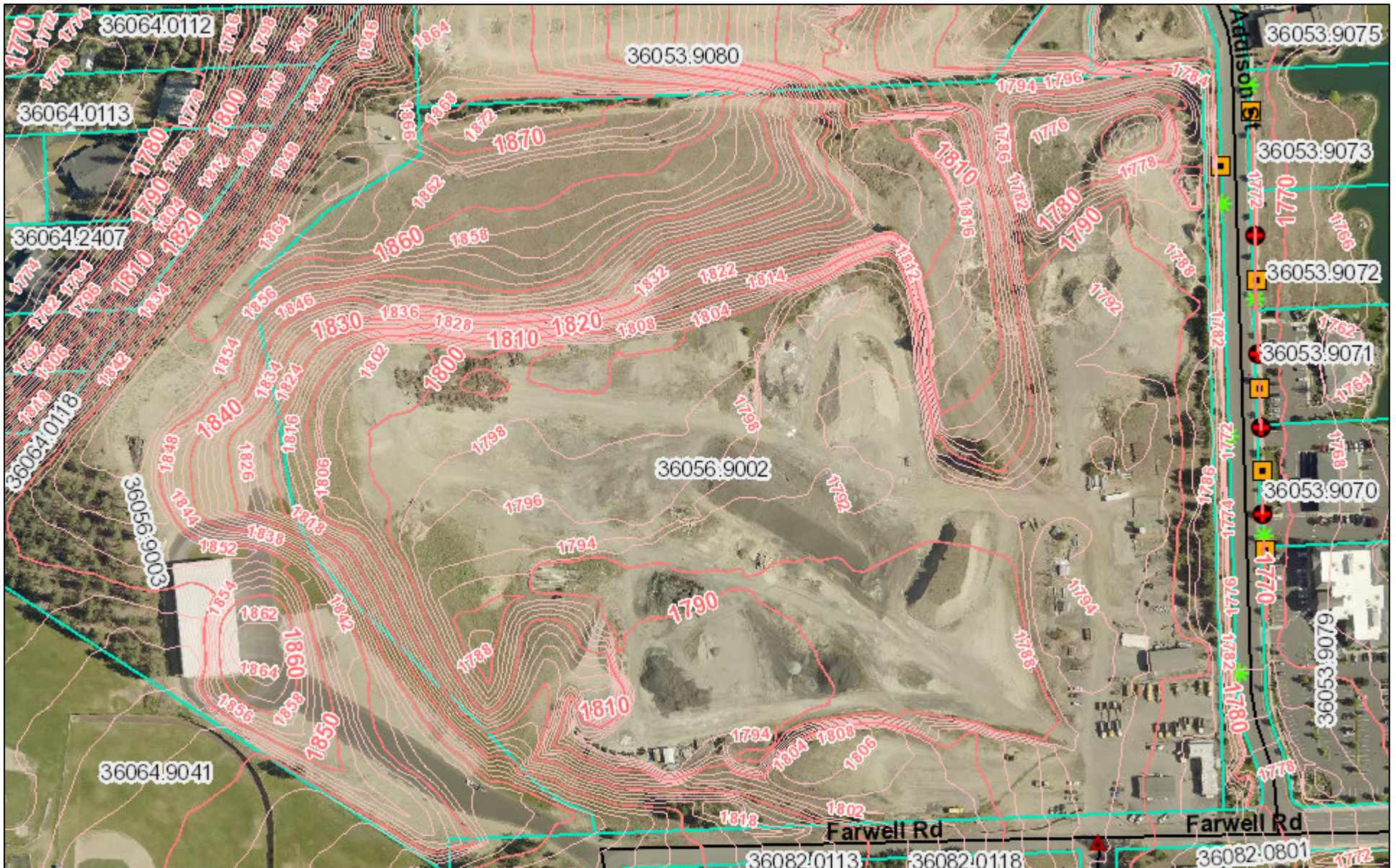
Attachments:

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

1101 North Fancher Rd.
Spokane Valley, WA 99212
Tel: 509.535.8841
Fax: 509.535.9589

www.budingerinc.com

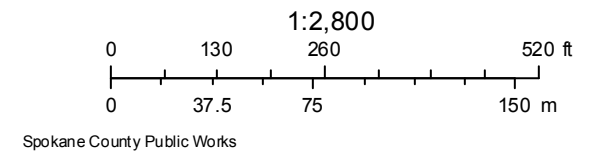
Spokane County Public Works




July 21, 2017

Test Pit Elevations Estimated From This Topographic Map

An Elevation Survey is Recommended if More Accurate Elevations are Needed






 GOOGLE EARTH IMAGE
 2016
 SCALE: 1"=300'
 0 150 300


 Budinger
 & Associates


SITE PLAN
 TEST PIT LOCATIONS
 OLD CORRAL PIT
 SPOKANE, WA

FIGURE 10.2
 PROJECT NUMBER X17428
 DATE: 7/2017

TEST PIT 1

Date: 7-19-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 1
Surface: gravel

Elevation: 1804 ft
Logged by: DDC
Size of hole: 5' x 25'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0		dry, gray, very dense	GRAVEL with Sand and Silt (fill)	
		dry, brown, dense	SAND with Gravel and Silt, Cobbles, occasional Boulder with Debris, coarse to fine, subangular (FILL)	
5			(wood debris at 4 ft)	
			(asphalt pieces 6 to 9 ft)	
10			(large asphalt & concrete, very large pieces could not advance past 14 ft)	
		no free groundwater observed		
15			End of Excavation @ 14 ft	
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ 7/24/17



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

TEST PIT LOGS

FIGURE 2-1

Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

TEST PIT 2

Date: 7-19-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 2
Surface: gravel

Elevation: 1789 ft
Logged by: DDC
Size of hole: 4' x 8'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0		dry, brown, gray, dense	GRAVEL with Sand, coarse, subangular to subrounded, (Fill)	
5		dry, brown, moderately dense	SAND with Gravel (in 2" seems), coarse to medium, subangular to subrounded (Native Sands)	
10		no free groundwater observed	End of Excavation @ 7 ft	
15				
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ 7/24/17



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

TEST PIT LOGS



FIGURE 2-2

Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

TEST PIT 3

Date: 7-19-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 3
Surface: gravel

Elevation: 1793 ft
Logged by: DDC
Size of hole: 4' x 9'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0		dry, gray, very dense	Silty GRAVEL with Sand, coarse, subangular to subrounded (FILL)	
		dry, brown, gray, dense	GRAVEL with Sand and Cobbles, occasional Boulder, coarse, subangular to subrounded (Native Gravel)	
5		no free groundwater observed	(coarser gravel and more cobbles at 5 ft)	
			End of Excavation @ 8.5 ft	
10				
15				
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ 7/24/17



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

TEST PIT LOGS


FIGURE 2-3

Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

TEST PIT 4

Date: 7-19-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 4
Surface: gravel

Elevation: 1790 ft
Logged by: DDC
Size of hole: 4' x 6'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0		dry, gray, very dense	GRAVEL, coarse, subangular (Fill)	
		dry, gray, brown, dense	GRAVEL with Sand, Cobbles and Silt, occasional Boulder, coarse to fine, subangular to subrounded (Native Gravel)	
			End of Excavation @ 4 ft	
5		no free groundwater observed		
10				
15				
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ 7/24/17



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

TEST PIT LOGS



FIGURE 2-4

Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

TEST PIT 5

Date: 7-19-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 5
Surface: grass & weeds

Elevation: 1794 ft
Logged by: DDC
Size of hole: 6' x 14'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0				
5		dry, brown, moderately dense	GRAVEL with Sand, Cobbles and Silt and Debris, coarse, subangular to subrounded (Fill) (asphalt pieces 4 to 7 ft) (metal debris at 6 ft)	
10		dry, brown, gray, dense slightly moist no free groundwater observed	GRAVEL with Sand, Cobbles and Silt, occasional Boulder, coarse to fine, subangular to subrounded (Native Gravel) (slightly moist at 10 ft)	
15			End of Excavation @ 12 ft	
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ 7/24/17



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

TEST PIT LOGS

Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

FIGURE 2-5

TEST PIT 6

Date: 7-19-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 6, Top of excavation at 1,808
Surface: grass & weeds

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

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0				
		dry, gray, brown, very dense	COBBLES & GRAVEL, with Sand and Silt (Fill)	
		dry, brown, dense	GRAVEL with Sand, Cobbles and Silt with Debris, coarse, subangular to subrounded (Fill) (dark gray ash or silt pocket on west side of pit, 2 feet thick)	
5				
		dry, brown, dense	GRAVEL with Sand, Cobbles & Boulders, coarse, subangular to subrounded (Likely Fill) (24 inch basalt boulder at 8 ft) (basalt cobbles and boulders from 9 to 11 ft) (piece of sewer pipe)	
10				
			GRAVEL with Sand, Silt, Cobbles, occasional Boulder, coarse to fine, subangular to subrounded (Likely Native Gravels)	
15				
		no free groundwater observed	(28 inch rounded boulder at 14 ft) End of Excavation @ 12.5 ft	
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ - 7/24/17



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

TEST PIT LOGS



Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

FIGURE 2-6

TEST PIT 7

Date: 7-19-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 7
Surface: gravel

Elevation: 1799 ft
Logged by: DDC
Size of hole: 6 x 24'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0				
		dry, gray, very dense	GRAVEL with Sand, Silt and Cobbles, coarse, subangular to subrounded (Fill)	
		dry, brown, gray, very dense	GRAVEL with Sand, Silt, occasional Cobbles and Boulders, coarse, subangular to subrounded (Native Gravel)	
5				
		no free groundwater observed	End of Excavation @ 6 ft	
10				
15				
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ 7/24/17



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

TEST PIT LOGS



FIGURE 2-7

Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

TEST PIT 8

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

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

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0				
5		dry, brown, dark brown, dense	GRAVEL with Sand, Silt, Cobbles and Boulders with Debris, coarse, subangular to subrounded (Fill) (asphalt pieces 2 1/2 to 3 1/2 ft) (dark brown silt and gravel) from 3 1/2 ft to 14 ft)	
10				
15		dry, brown, very dense	COBBLES & GRAVEL with Sand and Silt, coarse, subrounded, (Native Gravel) (brown/orange clay at 15 1/2 ft)	
		no free groundwater observed	End of Excavation @ 16 ft	
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ 7/24/17



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

TEST PIT LOGS


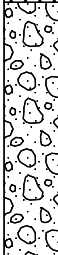
FIGURE 2-8

Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

TEST PIT 9

Date: 7-20-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 9, Top of excavation at 1,806
Surface: grass & weeds

Elevation: 1806 ft
Logged by: DDC
Size of hole: 8' x 20'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0				
		dry, brown, dense	GRAVEL with Sand, Silt and Cobbles and Boulders with Debris, coarse to fine, subangular (Fill)	
5			(likely Native Gravels below 6 ft in the bank)	
10			(metal rebar)	
15		moist, brown, gray, dense	(very large boulders at 14 ft at base of bank, 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	
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ 7/24/17



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

TEST PIT LOGS


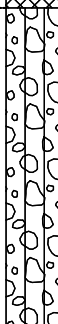
FIGURE 2-9

Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

TEST PIT 10

Date: 7-20-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 10
Surface: gravel & silt

Elevation: 1828 ft
Logged by: DDC
Size of hole: 8' x 20'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0				
		dry, brown, dark brown, moderately dense	SILT and SAND with Gravel, Cobbles and Debris (street sweepings)	
5			(light debris from 2 to 13 feet: sticks, plastic, styrofoam pieces, paper)	
10			(large cobbles at 12 ft) (log at 12 1/2 ft)	
15		slightly moist, brown, gray, dense	Silty GRAVEL and COBBLES with Sand, coarse, subrounded (Likely Native Gravels)	
20		no free groundwater observed	End of Excavation @ 18 ft	

TEST PIT - X17428 OLD CORRAL PIT.GPJ 7/24/17



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

TEST PIT LOGS


FIGURE 2-10

Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

TEST PIT 11

Date: 7-20-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 11
Surface: gravel

Elevation: 1786 ft
Logged by: DDC
Size of hole: 7' x 12'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0				
5		dry, brown, gray, dense	Silty GRAVEL with Cobbles and Sand, occasional Boulder, coarse, subangular to subrounded (Native Gravels)	
10		no free groundwater observed	End of Excavation @ 8 ft	
15				
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ 7/24/17



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

TEST PIT LOGS

FIGURE 2-11

Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

TEST PIT 12

Date: 7-20-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 12
Surface: gravel

Elevation: 1777 ft
Logged by: DDC
Size of hole: 5' x 8'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0				
		dry, brown, gray, loose	SAND with Gravel, coarse to medium, subangular to subrounded (Native Sands)	[Soil Log Pattern]
5				
		no free groundwater observed	End of Excavation @ 5.5 ft	
10				
15				
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ 7/24/17



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

TEST PIT LOGS

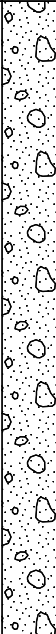
FIGURE 2-12

Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

TEST PIT 13

Date: 7-20-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 13
Surface: bare

Elevation: 1786 ft
Logged by: DDC
Size of hole: 5' x 12'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0				
5		dry, brown, gray, dense	GRAVEL with Sand, Silt and Cobbles, occasional Boulder, coarse, subangular to subrounded (Native Gravel)	
10			End of Excavation @ 10 ft	
15		no free groundwater observed		
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ 7/24/17



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

TEST PIT LOGS


FIGURE 2-13

Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

TEST PIT 14

Date: 7-20-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 14
Surface: bare

Elevation: 1784 ft
Logged by: DDC
Size of hole: 12' x 14'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0		dry, brown, dense	Silty GRAVEL and COBBLES, with Sand, coarse, subangular (Fill)	
		dry, dark brown, loose	Silty SAND with Gravel and Cobbles with Debris, occasional Boulder, fine, subangular (Fill) (metal strip)	
5			(metal)	
10			(wood debris)	
		no free groundwater observed	(caved twice at 12 ft, terminated pit due to collapse) End of Excavation @ 12 ft	
15				
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ 7/24/17



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

TEST PIT LOGS



FIGURE 2-14

Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

TEST PIT 15

Date: 7-20-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 15, Top of excavation at 1,804
Surface: grass and weeds

Elevation: 1804 ft
Logged by: DDC
Size of hole: 7' x 14'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0				
5		dry, brown, gray, loose	Silty SAND with Gravel, occasional Cobble, fine, subangular (Fill)	
10		dry, brown, gray, dense	SAND with Gravel, occasional Cobble, coarse, subangular to subrounded (Likely Native Sand)	
15		no free groundwater observed	End of Excavation @ 11 ft	
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ - 7/24/17



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

TEST PIT LOGS




Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

FIGURE 2-15

TEST PIT 16

Date: 7-20-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 16
Surface: gravel burms

Elevation: 1792 ft
Logged by: DDC
Size of hole: 9' x 14'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0				
		dry, dark brown, loose	(below burms of fill) Silty GRAVEL with Sand, Cobbles and Debris, coarse to fine, subangular (Fill with debris) (asphalt) (electric conduit and very long steel guard rail cable)	
5		dry, brown, loose	SAND with Gravel (fine) and Silt, occasional Cobble, coarse, subangular to subrounded (Fill)	
10		dry, brown, gray, dense	GRAVEL with Sand, occasional Cobble coarse to fine, subangular to subrounded (Possible Native Gravel)	
15		no free groundwater observed	(digging terminated at 10 ft due to caving) End of Excavation @ 10 ft	
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ - 7/24/17



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

TEST PIT LOGS



FIGURE 2-16

Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

TEST PIT 17

Date: 7-20-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 17
Surface: grass & weeds

Elevation: 1793 ft
Logged by: DDC
Size of hole: 7' x 12'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0				
		dry, brown, loose	Silty GRAVEL with Cobbles and Sand with Debris, coarse, subangular to subrounded, (Fill with Debris) (wood debris at 2 ft) (metal rebar at 2 1/2 ft) (asphalt at 3 ft)	
5		dry, brown, loose	Silty GRAVEL with Sand, occasional Cobble, coarse to fine, subangular to subround (Fill)	
		dry, brown, dense	Silty GRAVEL with Sand, occasional Cobble, coarse to fine (Possible Native Gravel - could not determine due to caving)	
10		no free groundwater observed	End of Excavation @ 10 ft	
15				
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ - 7/24/17



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

TEST PIT LOGS


FIGURE 2-17

Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428

TEST PIT 18

Date: 7-20-17
Excavator: Spokane County
Equipment: CAT 180G w/ 36" bucket
Location: Location 18
Surface: grass & weeds

Elevation: 1791 ft
Logged by: DDC
Size of hole: 4' x 7'

DEPTH	SAMPLE	MOISTURE, COLOR, CONDITION	DESCRIPTION	SOIL LOG
0				
5		dry, brown, gray, dense	GRAVEL with Sand, Cobbles and Silt, occasional Boulder, coarse, subangular to subrounded (Native Gravel)	
10		no free groundwater observed	End of Excavation @ 5 ft	
15				
20				

TEST PIT - X17428 OLD CORRAL PIT.GPJ 7/24/17



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

TEST PIT LOGS

FIGURE 2-18

Project: Old Corral Pit
 Location: Spokane, WA
 Number: X17428