



OREGON DEPARTMENT OF TRANSPORTATION AGGREGATE SITES




DISTRICT 10

JUNE 2002

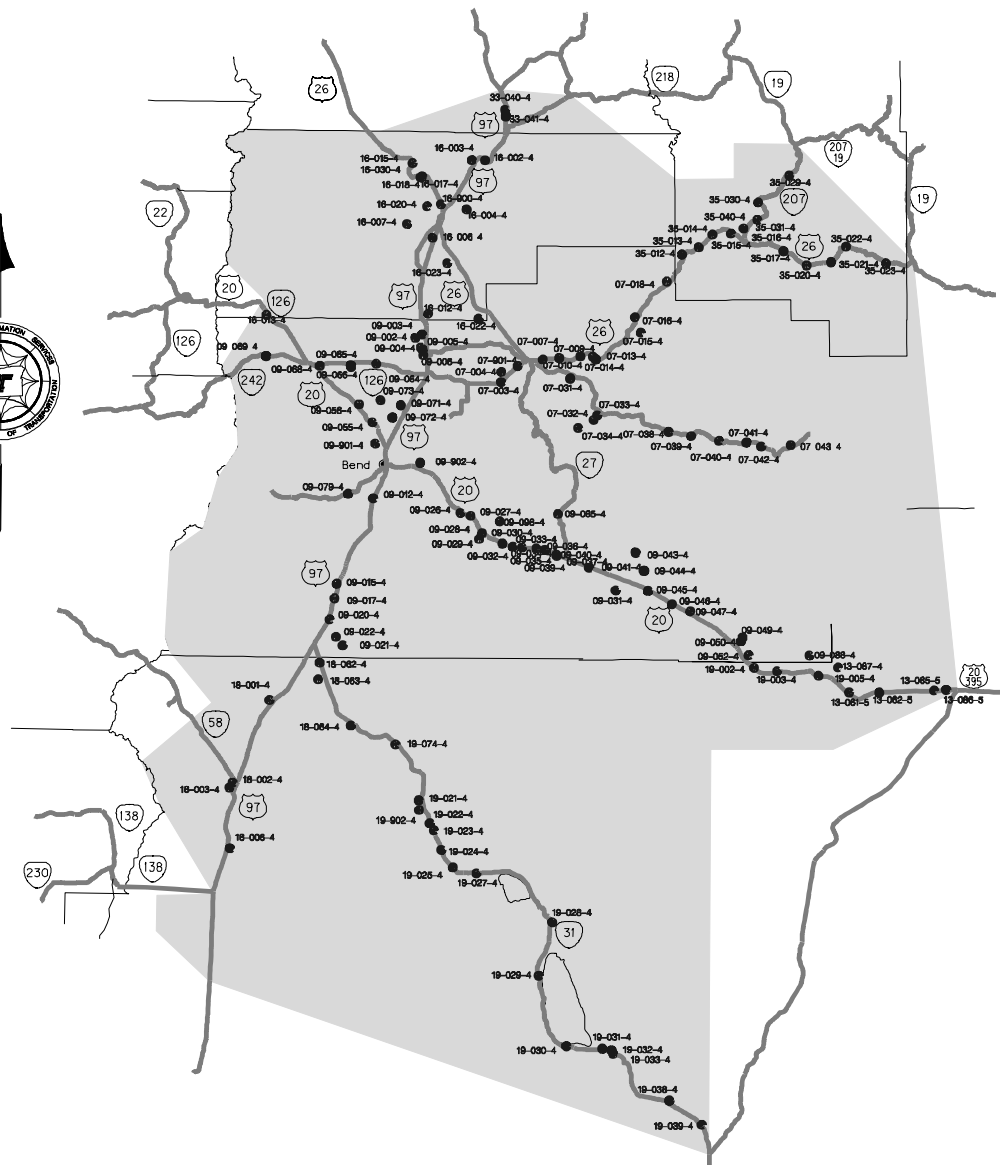
ROUTE AND HIGHWAY NUMBERS

-  INTERSTATE
-  U.S. ROUTE
-  OREGON ROUTE

LEGEND

-  COUNTY BOUNDARY
-  00-000-0 SITE ID NUMBER
-  ● SITE LOCATION SYMBOL

SCALE
0 2 4 6 8 10 30
MILES
1 inch = 30 MILES



List of Sites in District 10

Source Numbers

07-003-4	4
07-004-4	6
07-007-4	8
07-009-4	10
07-010-4	12
07-013-4	14
07-014-4	16
07-015-4	18
07-016-4	20
07-018-4	22
07-031-4	24
07-032-4	26
07-033-4	28
07-034-4	30
07-038-4	32
07-039-4	34
07-040-4	36
07-041-4	38
07-042-4	40
07-043-4	42
07-901-4	44
09-002-4	46
09-003-4	48
09-004-4	50
09-005-4	52
09-006-4	54
09-012-4	56
09-015-4	58
09-017-4	60
09-020-4	62
09-021-4	64
09-022-4	66
09-026-4	68
09-027-4	70
09-028-4	72
09-029-4	74
09-030-4	76
09-031-4	78
09-032-4	80
09-033-4	82
09-034-4	84
09-035-4	86
09-036-4	88
09-037-4	90
09-039-4	92
09-040-4	94
09-041-4	96
09-043-4	98
09-044-4	100
09-045-4	102
09-046-4	104
09-047-4	106
09-049-4	108

09-050-4	110
09-052-4	112
09-055-4	114
09-056-4	116
09-064-4	118
09-065-4	120
09-066-4	122
09-068-4	124
09-069-4	126
09-071-4	128
09-072-4	130
09-073-4	132
09-079-4	134
09-085-4	136
09-088-4	138
09-098-4	140
09-901-4	142
09-902-4	144
13-061-4	146
13-062-4	148
13-085-4	150
13-086-5	152
13-087-4	154
16-002-4	156
16-003-4	158
16-004-4	160
16-006-4	162
16-007-4	164
16-012-4	166
16-013-4	168
16-015-4	170
16-017-4	172
16-018-4	174
16-020-4	176
16-022-4	178
16-023-4	180
16-030-4	182
16-900-4	184
18-001-4	186
18-002-4	188
18-003-4	190
18-006-4	192
18-062-4	194
18-063-4	196
18-064-4	198
19-002-4	200
19-003-4	202
19-005-4	204
19-021-4	206
19-022-4	208
19-023-4	210
19-024-4	212
19-025-4	214
19-027-4	216
19-028-4	218
19-029-4	220
19-030-4	222

19-031-4	224
19-032-4	226
19-033-4	228
19-038-4	230
19-039-4	232
19-074-4	234
19-902-4	236
33-040-4	238
33-041-4	240
35-012-4	242
35-013-4	244
35-014-4	246
35-015-4	248
35-016-4	250
35-017-4	252
35-020-4	254
35-021-4	256
35-022-4	258
35-023-4	260
35-029-4	262
35-030-4	264
35-031-4	266
35-040-4	268

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook					10	0041	12.5	15S	15.0E	21
File ID		Source #	Date Visited	Map #			Type of Site			
07414		07-003-4	11/03/1999	1R-2-879			Quarry			
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 15'03.80166"	120 56'10.58541"	987.114	52.8	<17	07-0064					
Comments										
GPS acquired in lower pit.										
Rock Type	Unit	Color		Weathering			Jointing			
Basalt	QTb	Medium Dark Grey (N4)		Slight to Moderate			Moderate to Highly Fractured			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good to Fair			R3 to R4	168	250,000	567,000				
Potentially Significant Site	Why					Open/Closed	Direction			
Yes	Large acreage, adjacent to Highway 126, good rock, large quantity.					Closed	NA			
Adjacent Land Use										
Ranching										
Remarks										
This site is located on Highway 126 between Redmond and Prineville. The rock is a fine-grain, highly fractured basalt. The top 5 feet is moderately weathered. There is little to no overburden on fairly flat ground. You can rip some of the rock but most likely would need to drill and blast to produce some good dice rock. There is good screening for the southern pit and fair screening for the northern pit. There is plenty of room to work and stock pile material here. There is a stock pile site adjacent to the highway and the upper pit is used to store waste rock. There are power lines that bisect the property. If we moved the old waste material out of the existing pit and put it in a better location we could open up more ground for production. There is no gate here because this is a public access road to residences through and adjacent to our property. We need to develop a better location for the waste rock and bone-yard material.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.630	2.72	16.9	6	1.2			17.7	.7		
Material Use										
(1994)										

E

NW



Panoramic view of the southern pit.

Close-up view of the jointing pattern in the northern pit face.



Aerial view of the quarry site along Highway 126.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook	Grassy Butte Cinder			10	0041	14.4	15S	15.0E	16
File ID		Source #	Date Visited	Map #			Type of Site		
20477, 49756		07-004-4	11/03/1999	1R-5-455			Cinder Pit		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 16'32.32348"	120 56'06.53972"	1083.002	22.5	<12		07-0034			
Comments									
GPS acquired in the pit									
Rock Type	Unit	Color		Weathering			Jointing		
Cinder	QTp	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good			NA	120	500,000	810,000			
Potentially Significant Site	Why			Open/Closed	Direction				
No	Large cinder pit close to Highway 126.			Closed	NA				
Adjacent Land Use									
Ranching									
Remarks									
This site is located north of Highway 126 between Redmond and Prineville. The cinder cone has some good looking sanding material with a few lithified zones/flows of basalt. There could be up to 25% waste from this site. That would include material that is too big to be crushed or not the right size in some form. Most of the cinder can be ripped and screened quite easily, but you will need to crush some at this location due to the lithified nature of the volcanic rock. There is plenty of room to work with good screening from most vantage points. Adjacent to the north is a target range for a gun club. The gate for the access road was damaged by a low-boy semi-truck prior to my visit and will need to be fixed.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.76	50.0			30.68	.3			
Material Use									
SAND AG (1965)									

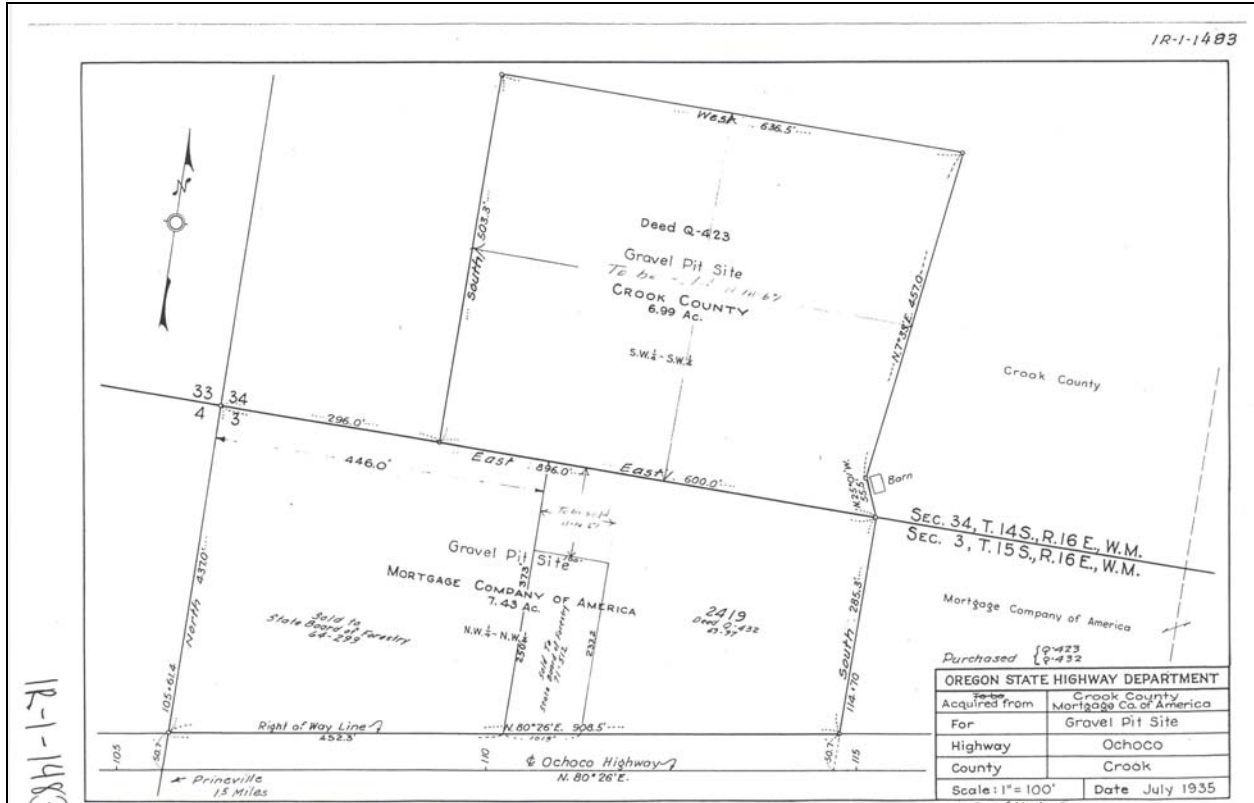


Panoramic view of the cinder pit.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook					10	0041	20.81	15S	16.0E	03
File ID		Source #	Date Visited	Map #		Type of Site				
02420, 02419		07-007-4	11/03/1999	1R-1-1483		Maintenance Yard				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #				
44 18'15.06000"	120 48'16.93000"	913	19.56	NA						
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type	Unit	Color		Weathering			Jointing			
NA	NA	NA		NA			NA			
Quality			Hardness	lbs./cu ft.		Reserve (cy)	Reserve (Tons)			
NA			NA	0						
Potentially Significant Site	Why			Open/Closed		Direction				
No	Maintenance Yard			NA		NA				
Adjacent Land Use										
Residential										
Remarks										
This location is just east of Prineville and is an ODOT Maintenance Yard.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										



Aerial view of the maintenance yard east of Prineville, OR.



County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook				10	0041	23.6	14S	16.0E	36
File ID		Source #	Date Visited	Map #			Type of Site		
02413		07-009-4	11/03/1999	1R-1-1484			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #				
44 18'27.74563"	120 45'06.93333"	918.209	11.97	<2	07-0069				
Comments									
GPS acquired in the pit									
Rock Type	Unit	Color	Weathering			Jointing			
Volcanic Gravel	Qs	NA	NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good to Fair			NA	120	100,000	162,000			
Potentially Significant Site	Why			Open/Closed	Direction				
No	Easement has been cross-fenced, new residential area adjacent to this site.			Closed	To the south approximately 400 meters is Ochoco Creek.				
Adjacent Land Use									
Residential/Farming									
Remarks									
This site is located just east of Prineville and north of Highway 26. The rock is a heterogeneous mix of varying size (<20cm) and shape of volcanic gravel. This ground can have up to 35% sand mixed in. There is room to work but no screening from the highway. The eastern most access road is now part of a private drive, and the western easement road has been fenced and cross fenced with no access evident. The northern portion of our property is fenced and being used as a grazing field with irrigation pipe in place but not in use at the time of my visit. There are a lot of new homes and housing developments out in this area, very near our property. It appears that the past disturbance has been reclaimed. This site is out of the flood plane.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.51	20.5	11.3	6.2			11.0	2.7	
Material Use									
(1975)									

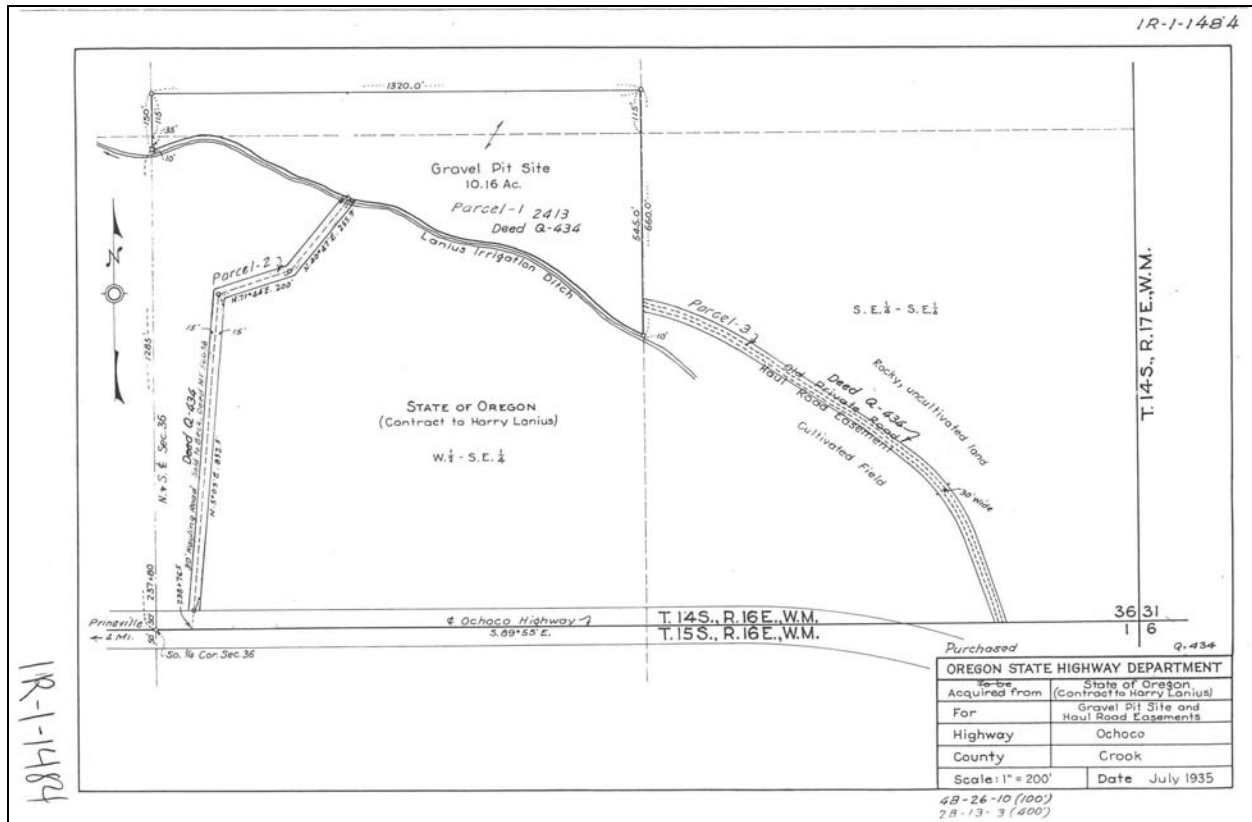
N

SE



Looking east at the borrow site along Highway 26.

Close-up view of the gravel at this location with the hammer for scale.



Aerial view of the borrow site in relation to the surrounding area.
Highway 26 is in the bottom portion of the image.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook					10	0041	26.8	14S	17.0E	33
File ID		Source #	Date Visited	Map #		Type of Site				
05613		07-010-4	11/03/1999	1R-2-556		Road Cut				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 18'41.95032"	120 41'09.21509"	964.217	16.33	NA						
Comments										
GPS acquired along Highway 26 and milepoint 27.										
Rock Type	Unit	Color		Weathering		Jointing				
Andesite	Tca	Medium Dark Grey (N4)		Fresh to Slight		Highly Fractured				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			R4	167						
Potentially Significant Site	Why			Open/Closed	Direction					
No	Road cut along Highway 26. Narrow work area.			Closed	South across Highway 26 approximately 150 meters is the Ochoco Reservoir.					
Adjacent Land Use										
Residential/Forest										
Remarks										
This site is on the inside radius of Highway 26. You could straighten out the road here and develop this site for aggregate. This would produce lake front property for future use. This site has been released to State Parks.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
		2.64								
Material Use										
(1937)										

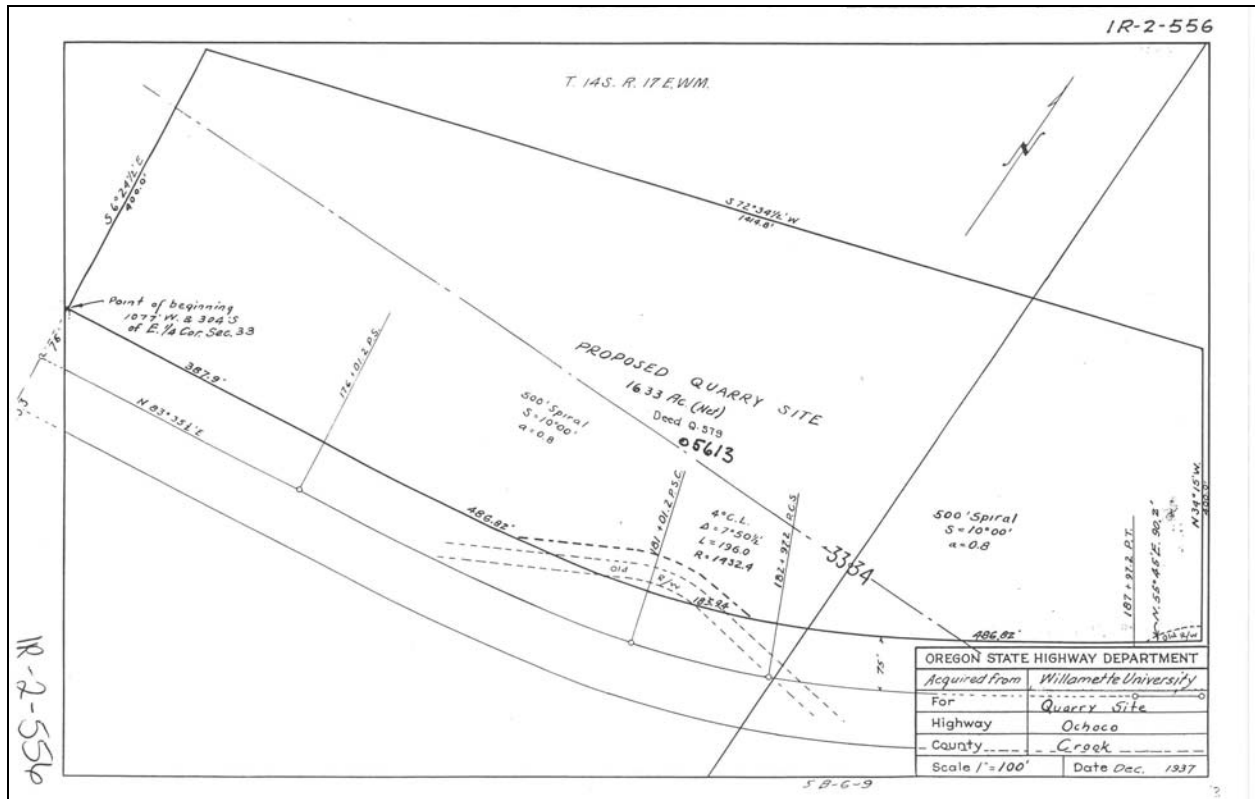
SW

NE



Looking northwest across Highway 26 at the road cut.

Close-up view of the fracture pattern in the andesite at this location.



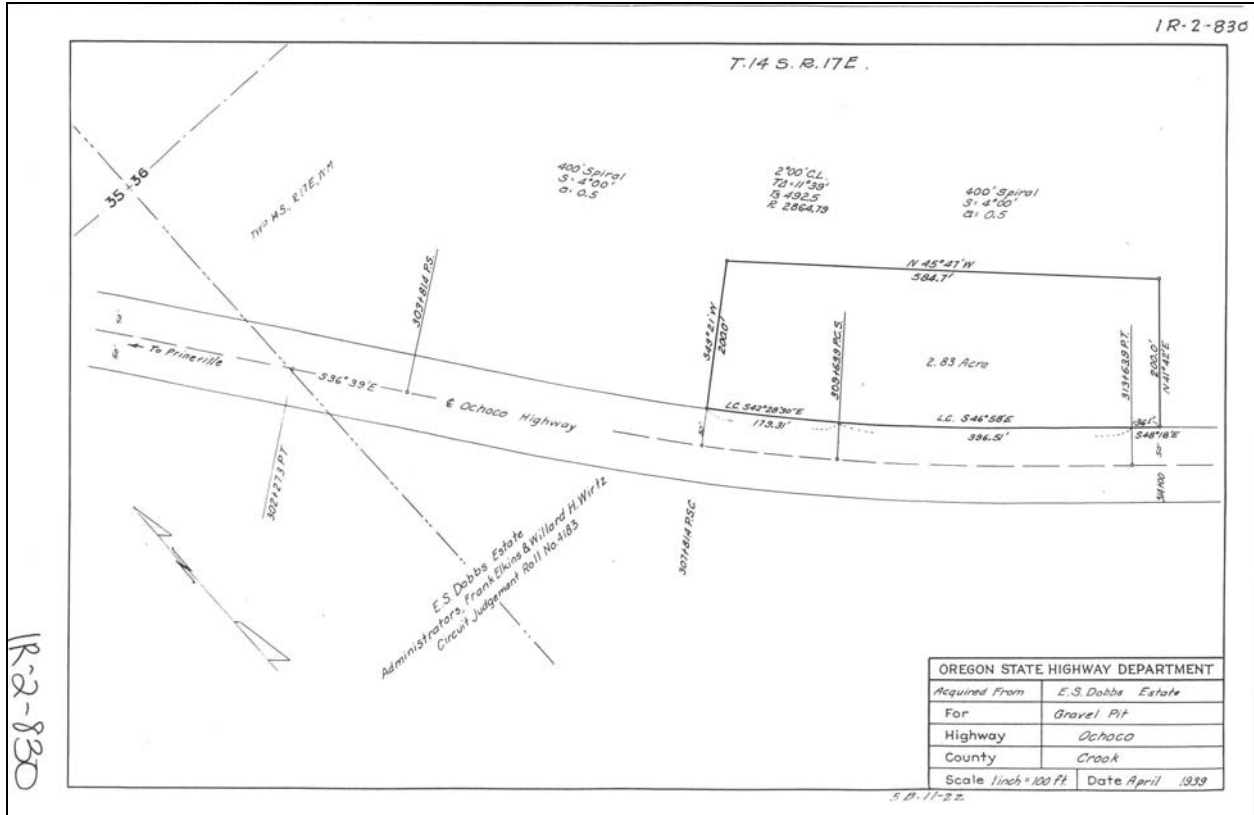
Aerial view of the site along the highway.
The Ochoco Reservoir is dry in this photograph with the creek evident.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook				10	0041	29.41	14S	17.0E	36
File ID		Source #	Date Visited	Map #			Type of Site		
06900		07-013-4	11/03/1999	1R-2-830			Raw Land		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 18'36.64500"	120 38'40.75000"	1024	2.83	NA					
Comments									
Lat. and Long. acquired using Terrain Navigator Software									
Rock Type	Unit	Color		Weathering			Jointing		
NA	NA	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
NA			NA	120	30,000	48,600			
Potentially Significant Site	Why	Open/Closed	Direction						
No	Too small.	Closed	South across Highway 26 approximately 400 meters is Ochoco Creek.						
Adjacent Land Use									
Ranching									
Remarks									
This property is adjacent to Highway 26. It had no visible disturbance. I could not locate the exact location but acquired images of the area. There is a better and larger site 700 meters to the east. This site could be used by Maintenance for a stock pile site.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
Material Use									

E



Looking east across the highway at the small site.



1R-2-830



Aerial view of the site along Highway 26.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook				10	0041	29.86	14S	17.0E	36
File ID		Source #	Date Visited	Map #			Type of Site		
06189, 06191, 06190		07-014-4	11/03/1999	1R-2-641			Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 18'17.03399"	120 38'12.16866"	971.537	12.89	<1					
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color		Weathering			Jointing		
Basalt	Tca	Medium Dark Grey (N4)		Fresh to Decomposing			Moderate Fracture to Massive		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good to Poor			R4	161	120,000	260,820			
Potentially Significant Site	Why			Open/Closed	Direction				
Maybe	Good rock, adjacent to Highway 26, minimal acreage.			Closed	South across Highway 26 approximately 350 meters is Ochoco Creek.				
Adjacent Land Use									
Ranching									
Remarks									
This site is located along the inside radius of Highway 26 about 9 miles east of Prineville. The rock is a porphyritic basalt, with a fine-grain ground mass and phenocrysts of plagioclase. The phenocrysts are small (<3mm), and not too abundant (<5%). The rock can be very blocky, with a possible use as rip rap. There is no screening and no room to work here. You would need to drill and blast the rock. All work at this site in the future should concentrate on removing material from the top down. Past production here has been from the bottom, adjacent to the highway. This has produced vertical walls with dangerous hanging boulders. There is limited overburden with less than 2 feet of soil. A secondary dike crosscuts the rock exposure and helps to promote the strong weathering seen on the rock face. The terrain is steep and falling rock can pose a danger to workers.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
Material Use									

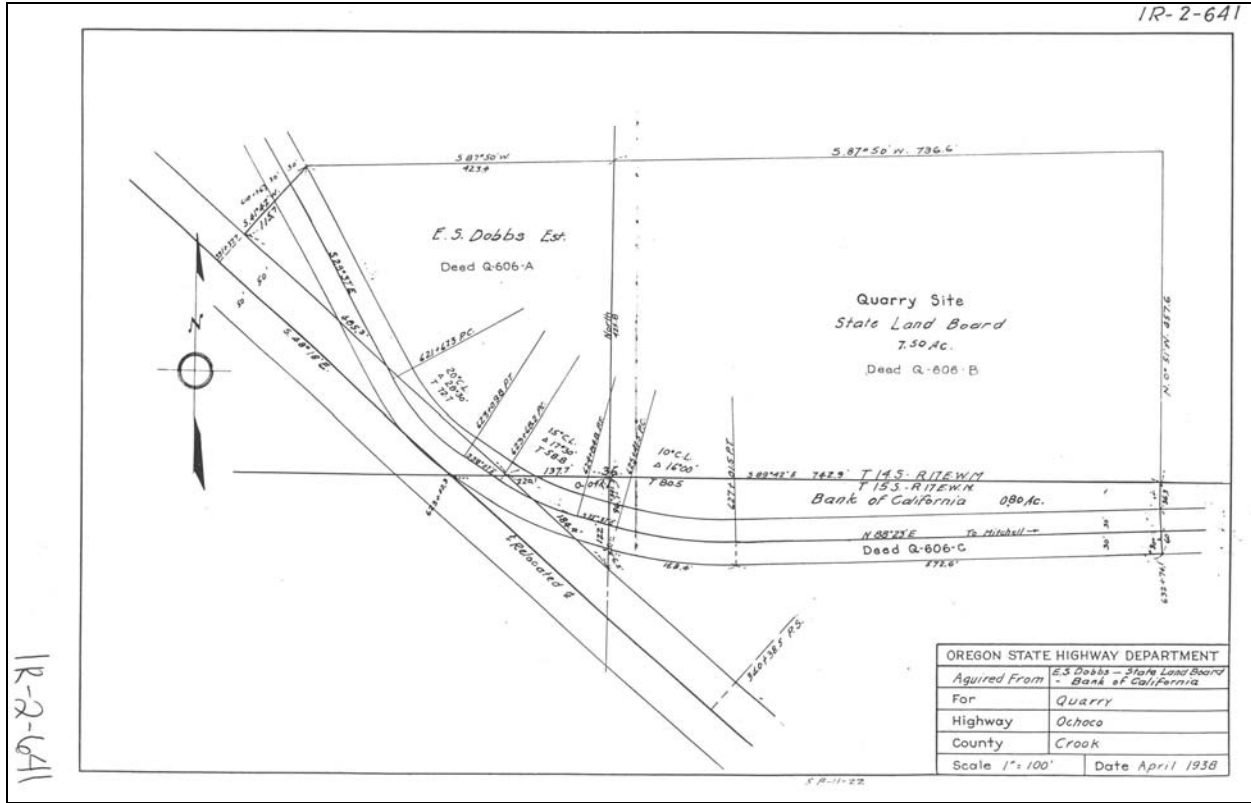
N

E



Looking northeast at the quarry site along Highway 26.

Close-up view of the fracture pattern with the hammer for scale.

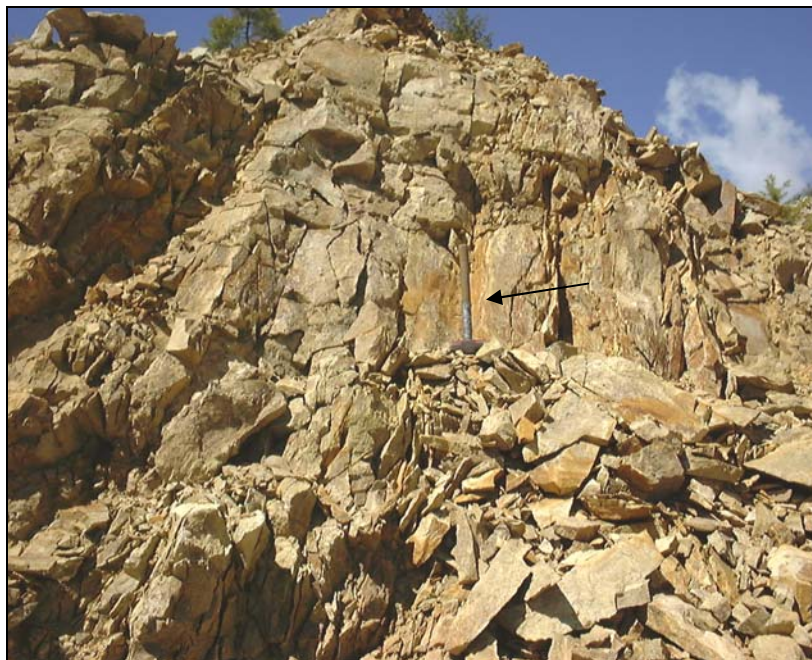


Aerial view of the quarry site that is adjacent to Highway 26.

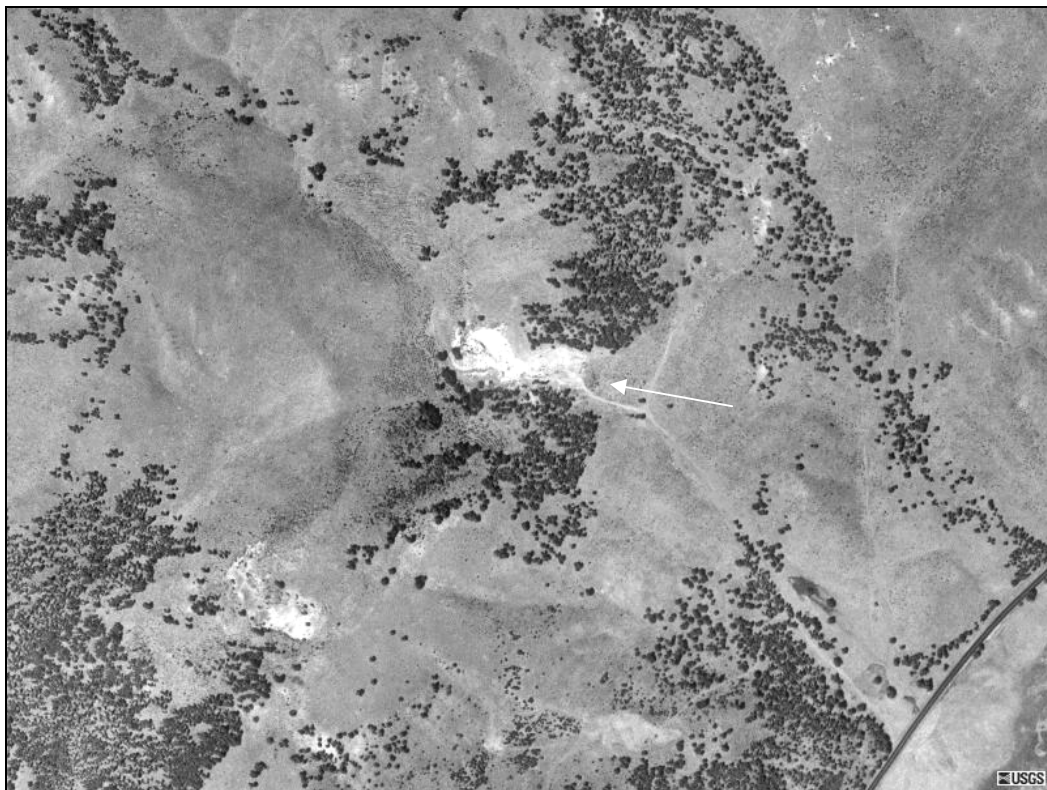
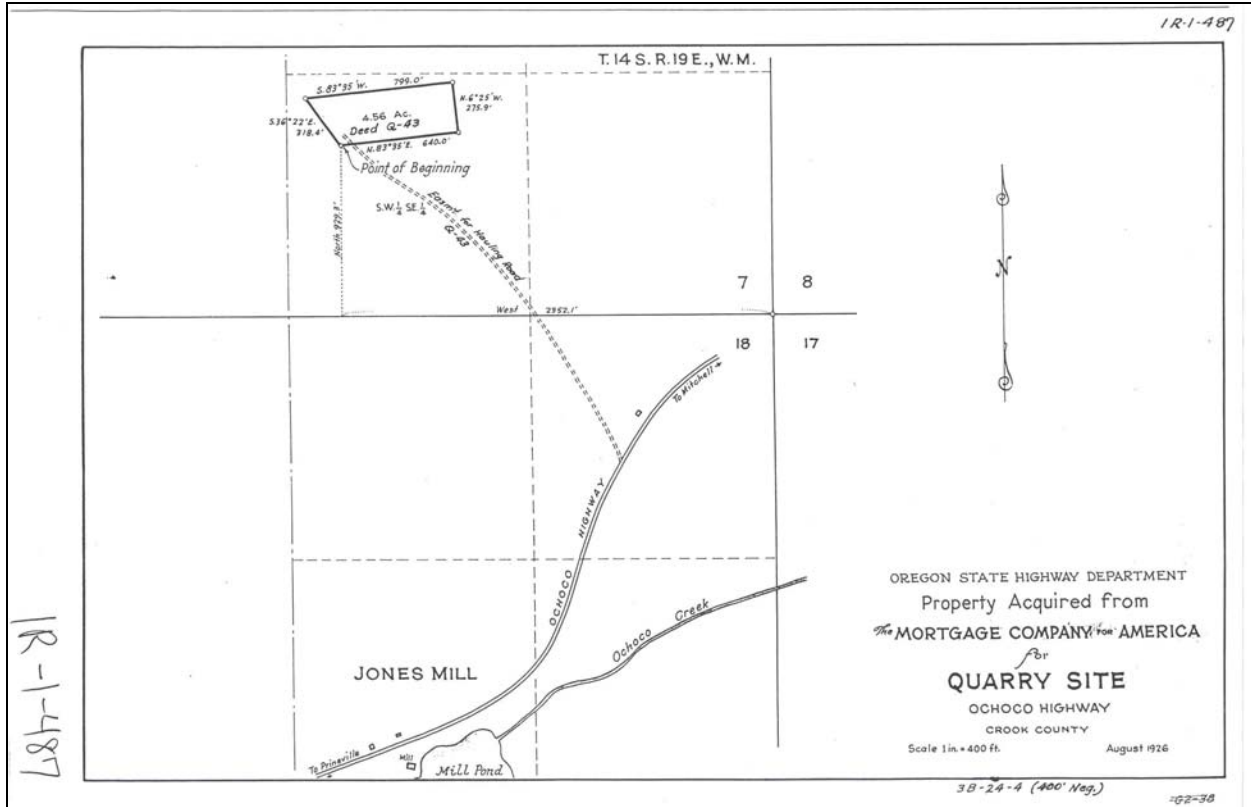
County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook				10	0041	35	14S	19.0E	07
File ID		Source #	Date Visited	Map #			Type of Site		
Q0043		07-015-4	05/02/2001	1R-1-487			Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44°21'53.55183"	120°29'44.02705"	1185.595	4.56	<1		07-0053			
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color		Weathering			Jointing		
Rhyolite	Tr	Pinkish Grey 5YR 8/1		Slight to Fresh			Highly Fractured		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Poor			R2+	140	30,000	56,700			
Potentially Significant Site	Why			Open/Closed	Direction				
No	NA			Closed	NA				
Adjacent Land Use									
Open Space/ Farming									
Remarks									
This site is about 700 meters north of the old Ochoco Highway. Access is through a private locked gate. The rock here is a highly fractured rhyolite. The terrain is moderate relief. You can rip the material. There is limited room to work with good screening.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
Material Use									



View of the small quarry site along the Old Ochoco Highway.



Close-up view of the pit face at the small quarry site, notice the highly fractured nature of the rhyolite.



Aerial view of the quarry site along the Old Ochocho Highway.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook	Sears Creek Quarry				10	0041	40	13S	18.0E	36
File ID		Source #	Date Visited	Map #		Type of Site				
16149,22069,18837		07-016-4	06/06/2000	1R-2-2528		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 24'06.32618"	120 30'45.28124"	1196.845	8.08	<2	07-0051					
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color		Weathering		Jointing				
Basalt	Tca	Medium Dark Grey (N4)		Fresh to Slight		Moderate to Highly Fractured				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good to Very Good			R3+	165	100,000	222,750				
Potentially Significant Site	Why			Open/Closed	Direction					
No	NA			Closed	Adjacent to the west is Sears Creek					
Adjacent Land Use										
Open space										
Remarks										
This site is located north of and adjacent to Highway 26. The rock is a fine-grain basalt that is moderate to highly fractured. There is plenty of room to work and fair to no screening from the highway. You can rip the rock for pit run material. There is a possibility of elongated pieces. The terrain is moderate to steep. You can acquire moderate amounts of rip rap. There is a stock pile site across the highway from the quarry. There is a gate at this site but it was not locked at the time of the visit. Minor use as a waste site. Good to fair berm at the creek's edge. Approximately 245,000 cubic yards has been removed.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.45	2.49	23.1	8.8	2.1			12.8	0.4		
Material Use										
AC (1991)										

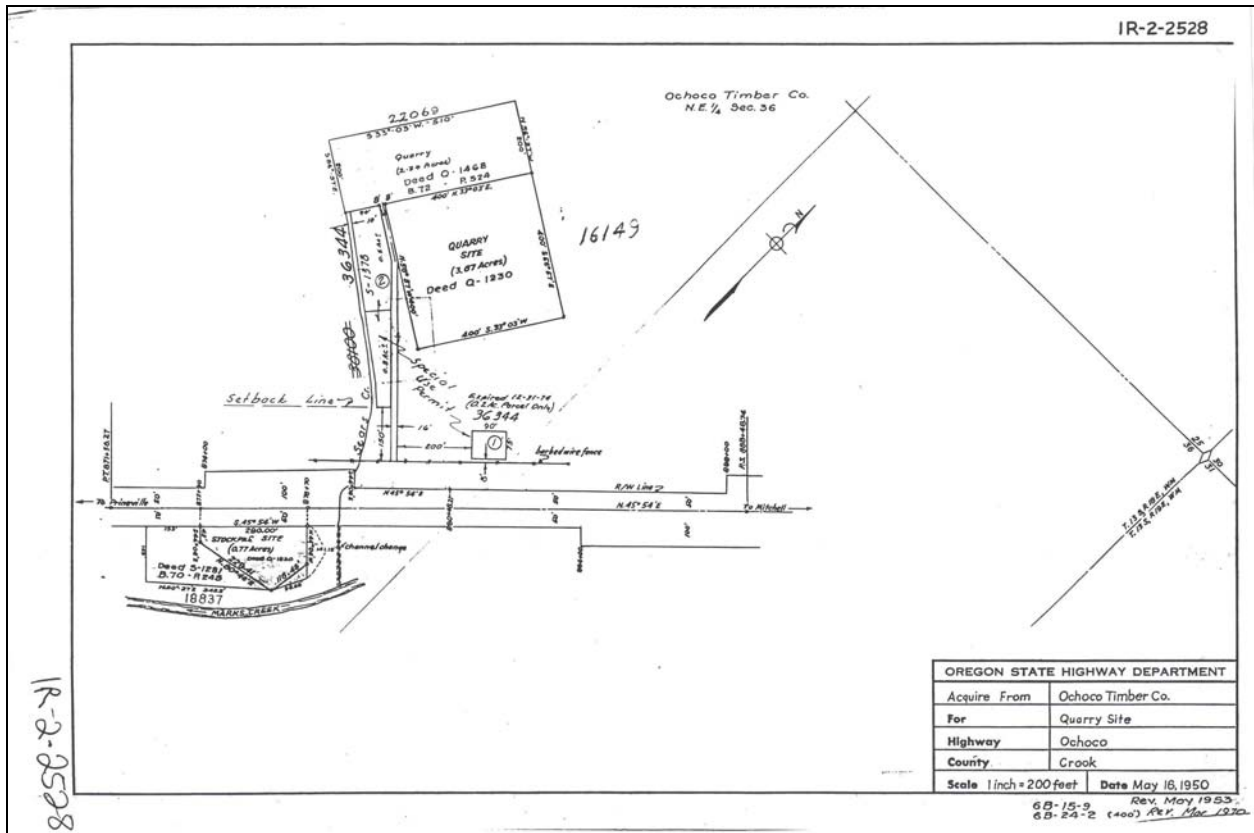
NW

SE



Panoramic view of the quarry site along Highway 26. The access point is to the far right of the image.

Close-up view of the jointing pattern at the pit face with the hammer for scale.



Aerial view of the quarry site in relation to the surrounding terrain.
The stockpile site is in the lower center of the image.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook	McGinnis Creek Quarry				10	0041	48.14	12S	19.0E	35
File ID		Source #	Date Visited		Map #			Type of Site		
21673		07-018-4	06/06/2000		1R-5-492			Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 29'01.14825"	120 24'42.05610"	1379.875	40	<2						
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color		Weathering			Jointing			
Basalt	Tca	Dark Grey (N3)		Fresh			Highly Fractured			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Very Good to Good			R3+	164	290,000	642,060				
Potentially Significant Site	Why			Open/Closed	Direction					
No	Leased ground from the Forest Service			Closed	Adjacent to McGinnis Creek					
Adjacent Land Use										
National Forest										
Remarks										
This site is located approximately 800 meters northwest of Highway 26, off of Forest Service road 350. The rock is a very fine-grain, highly fractured basalt. There is room to work with good screening from the highway. The terrain is fairly flat to gradual and slopes about ten degrees. You can rip the rock for pit run material. There are two distinct flows in contact with one another. You can possibly get elongated pieces due to the fine-grain nature of the rock. Also the basalt can produce a lot of fines. This is Forest Service ground that is used as a minor waste site.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.47	2.56	26.2	4.4	4.3			23.9	1.0		
Material Use										
AC (1991)										

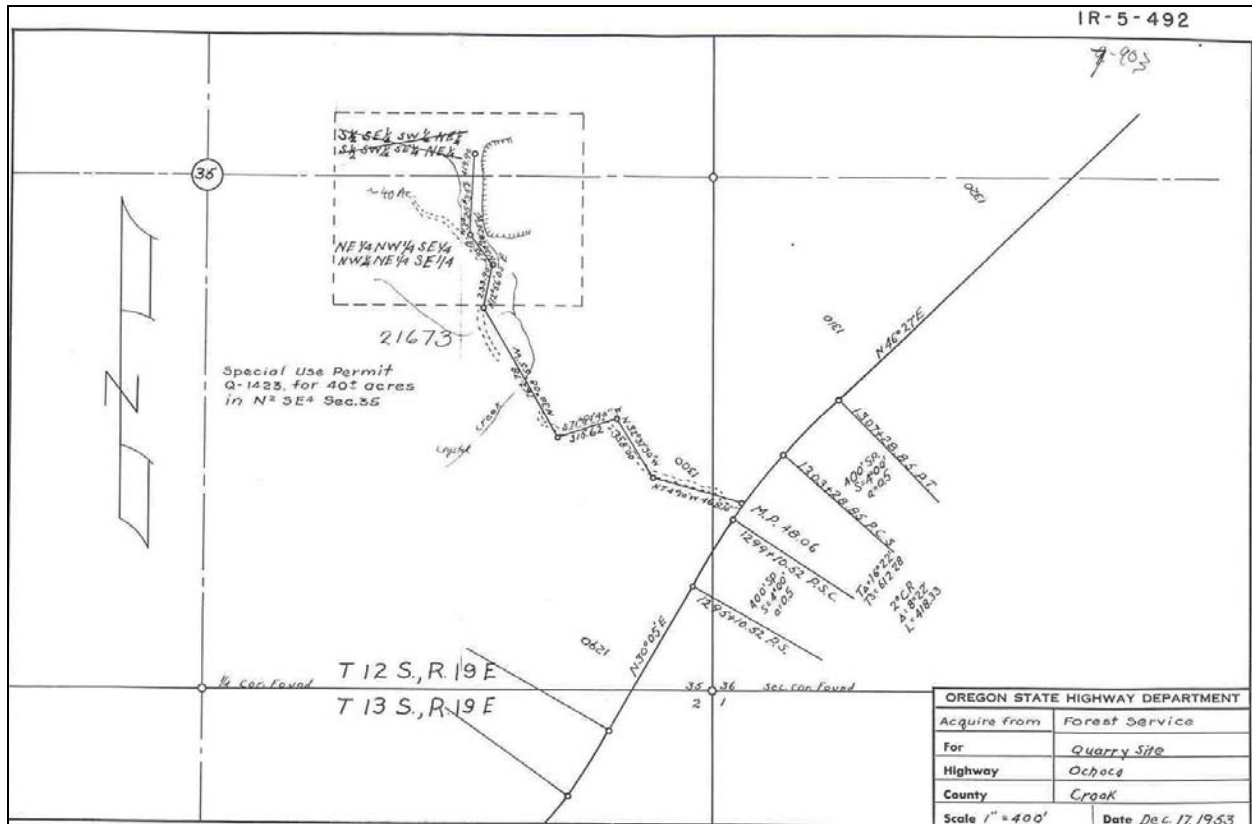
N

S



Looking northeast at the quarry face along the Forest Service Road.

Close-up view of the fracture pattern with the hammer for scale.



Aerial view of the quarry site along the Forest Service Road.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook					10	0380	7.03	15S	17.0E	20
File ID		Source #	Date Visited		Map #			Type of Site		
17302		07-031-4	11/04/1999		1R-5-107			Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 15'38.12988"	120 43'03.33229"	1263.002	23	<3						
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color		Weathering			Jointing			
Basalt	Tba	Medium Grey (N5)		Fresh			Highly Fractured			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Very Good			R4	170	750,000	1,721,250				
Potentially Significant Site	Why				Open/Closed		Direction			
Yes	Large acreage, room to work, close to a state highway.				Closed		NA			
Adjacent Land Use										
Open space										
Remarks										
This site is located about 6 miles southeast of Prineville on Highway 380. The rock is a very good fine-grain, highly fractured basalt (dice rock). You would need to drill and blast with minor ripping potential. There is good screening from the highway with plenty of room to work here. The terrain has low relief with no overburden. This site can produce a minor quantity of rip rap. This site is in a very good lithological unit. If we ever want to expand our ground in the region we should find this same unit.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
		2.79								
Material Use										
BASEAG, AC AG (1955)										

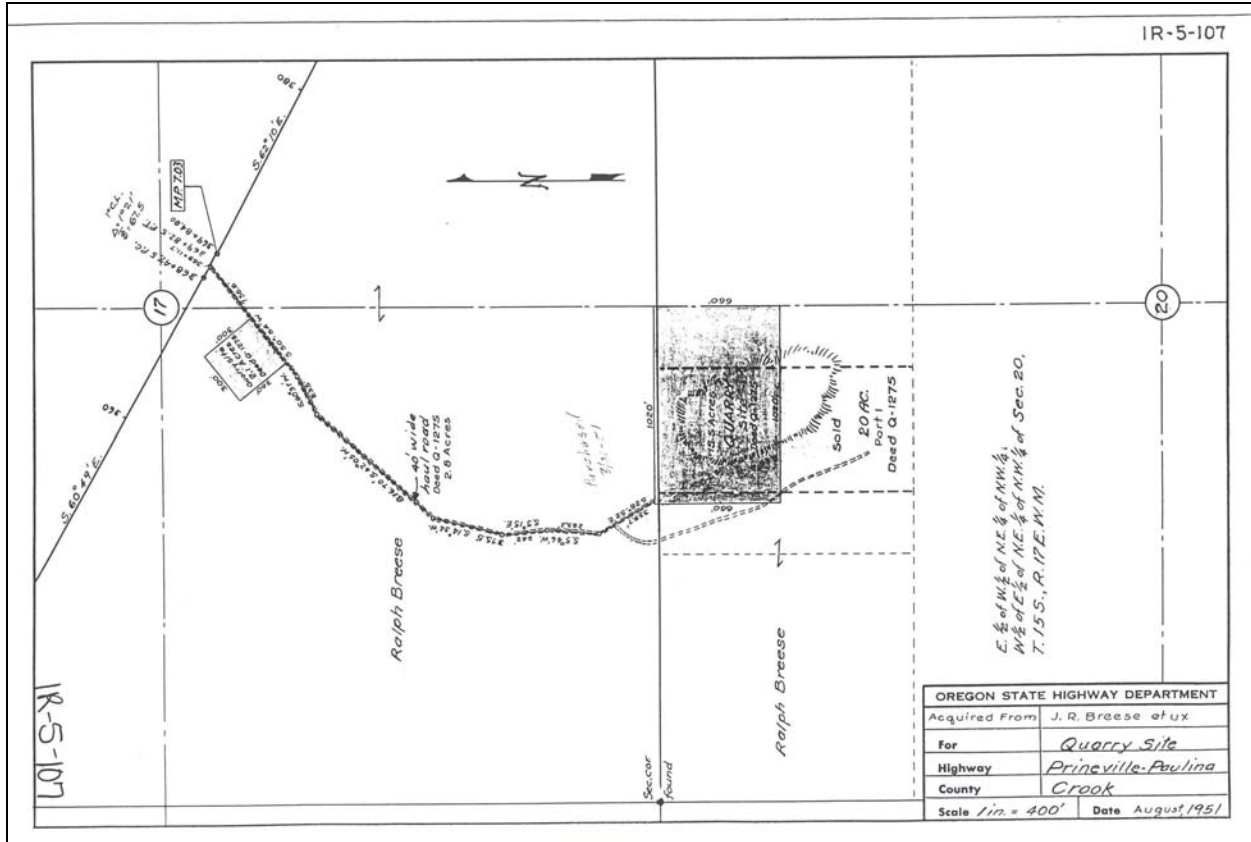
NW

E



Looking northeast at the quarry site and the past disturbance.

Close-up view of the jointing pattern with the hammer for scale. Minor rip rap from this site.

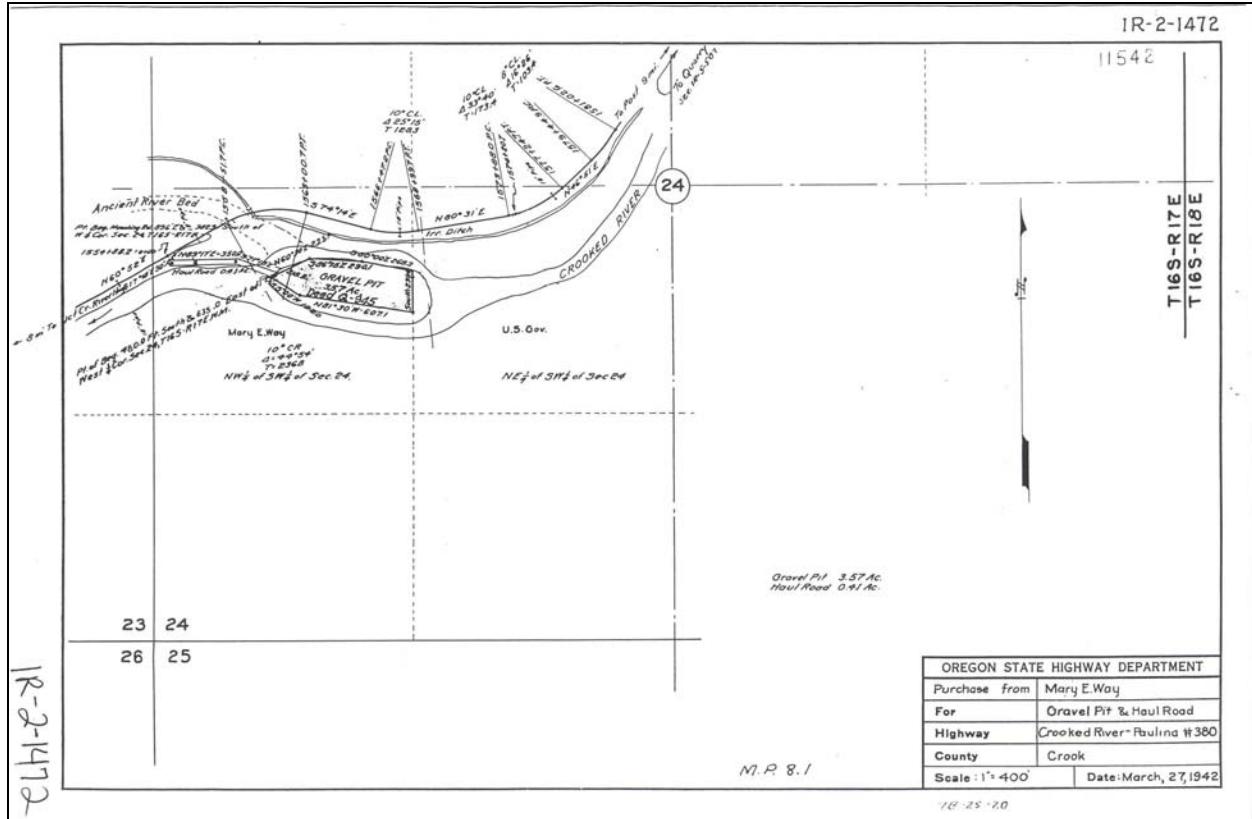


Aerial view of the quarry site, Highway 380 is in the upper right corner.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook					10	0380	16.45	16S	17.0E	24
File ID		Source #	Date Visited	Map #			Type of Site			
11542		07-032-4	11/04/1999	1R-2-1472			Gravel			
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 09'57.65000"	120 38'36.38000"	1035	3.98	NA						
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type	Unit	Color	Weathering			Jointing				
Alluvium	NA	NA	NA			NA				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Poor			NA	120						
Potentially Significant Site	Why			Open/Closed	Direction					
No	In the Reservoir.			Closed	In the Prineville Reservoir.					
Adjacent Land Use										
Open space										
Remarks										
This site is located in the Prineville Reservoir/Crooked River. The lake has deposited Silt/Sand and has less than 1% gravel. The lake level was down for this time of the year and this site was high and dry for evaluation purposes. For all intents this site is depleted of all gravel and material. This site was tested in 1949 and the LL was measured at 22%.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										



Looking south at the gravel site along the Crooked River.
 During most of the year this site is under water.

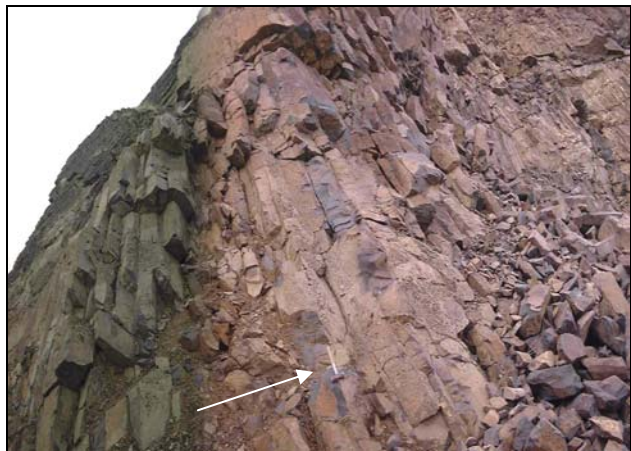


Aerial view of the gravel site during a low water period.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook				10	0380	16.45	16S	17.0E	13
File ID		Source #	Date Visited	Map #			Type of Site		
21710		07-033-4	11/04/1999	1R-5-507			Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #				
44 10'35.71166"	120 37'55.49879"	991.767	14.9	<1					
Comments									
GPS acquired along the gravel road and the quarry site.									
Rock Type		Unit	Color	Weathering		Jointing			
Basalt/Pyroclastics/Debris Flows		Qls	Medium Dark Grey (N4)	Fresh		Moderate to Massive Fracture			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Very Good to Good			R4	163	100,000	220,050			
Potentially Significant Site	Why		Open/Closed	Direction					
Maybe	Very good rock, close to Highway 380.		Closed	South across the gravel road approximately 70 meters is the Crooked River.					
Adjacent Land Use									
Open space/Ranching									
Remarks									
This site is located at the upper reaches of the Prineville Reservoir at the confluence with the Crooked River. The rock is a fine-grain basalt dike that crosscuts pyroclastics and debris flows. The debris flow has no aggregate value and would be waste material. There is no screening at this remote site but there is room to work. The terrain is steep and future production should take this in to consideration. You will need to drill and blast with a strong possibility that you could acquire some rip rap from this site. With the terrain so steep it would be nice to develop this site from the top down. This site has had recent fencing installed on what appears to be our property.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.6						9.7	.4	
Material Use									
Rip Rap (1983)									

SW

NW



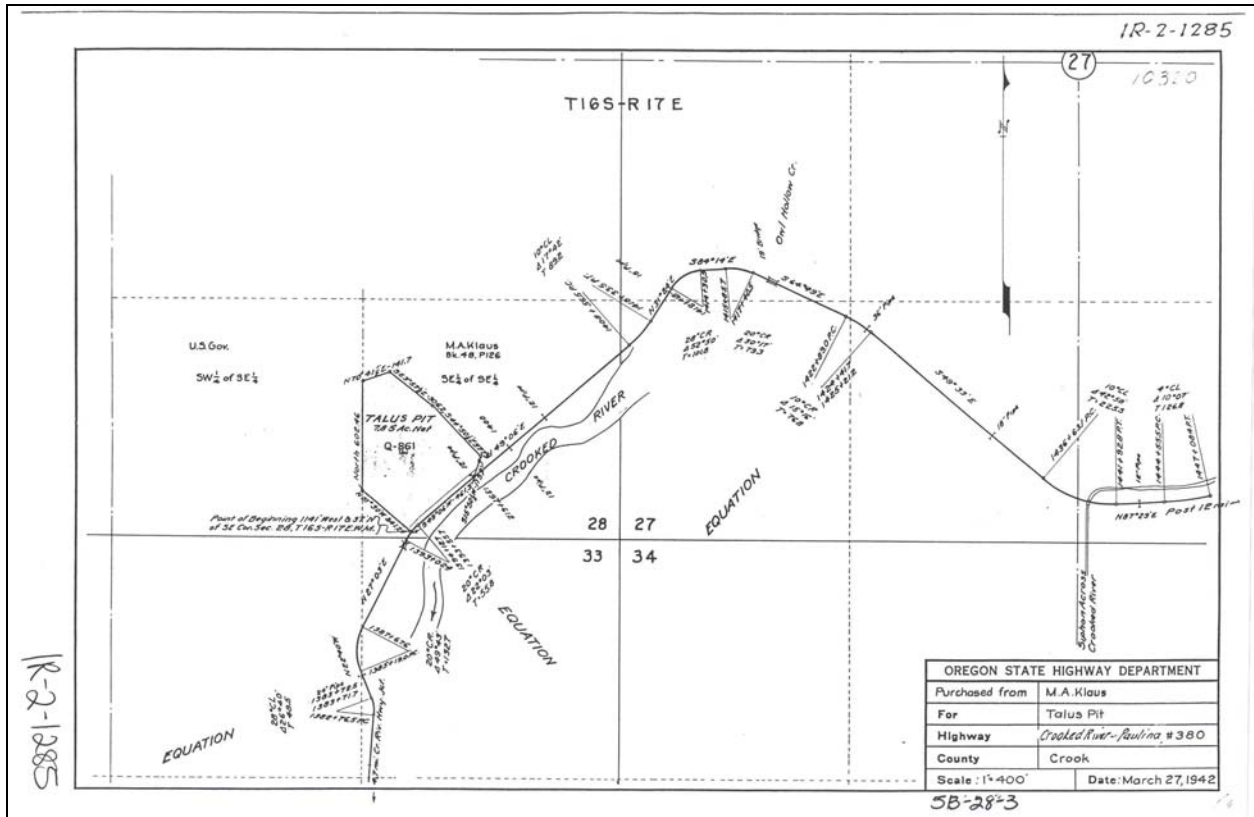
Looking west at the face of the cliff. This is the basalt dike that crosscuts the debris flow in the area.

Close-up view of the columnar jointing with the hammer for scale.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook	Peterson Rock Garden Pit				10	0380	16.45	16S	17.0E	28
File ID		Source #	Date Visited	Map #		Type of Site				
10320		07-034-4	11/04/1999	1R-2-1285		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 08'49.41000"	120 41'30.64000"	1003	7.85	NA						
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type	Unit	Color		Weathering			Jointing			
Rhyolite	Tca	NA		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Poor			NA	155						
Potentially Significant Site	Why			Open/Closed	Direction					
No	Adjacent to and in the Prineville Reservoir.			Closed	In and adjacent to the Prineville Reservoir					
Adjacent Land Use										
Open space/BLM										
Remarks										
The lithology at this site is composed of Rhyolite and is of little use to us. This site is in and adjacent to the reservoir. Easement to this site has been eliminated since the construction of the Prineville Reservoir. We would need to develop a new road through the State Park if we want to use this site.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										



Aerial view of the site adjacent to and in the reservoir.



County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook					10	0380	29.3	16S	19.0E	35
File ID		Source #	Date Visited	Map #		Type of Site				
08782		07-038-4	05/31/2000	1R-2-1107		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 08'19.15835"	120 24'26.7939"	1042.921	3.51	<2						
Comments										
GPS acquired at the access point and Highway 380.										
Rock Type	Unit	Color		Weathering			Jointing			
Volcanic Gravel	Qal	NA		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good to Fair			NA	120	20,000	32,400				
Potentially Significant Site	Why			Open/Closed	Direction					
No	Too small			Closed	South about 70 meters is the Crooked River					
Adjacent Land Use										
Ranching										
Remarks										
This site is adjacent to and south of Highway 380. The gravel is composed of a heterogeneous mix of sizes and shapes. With the dominant being cobble size and less. There is about 60% gravel and 40% sand by volume. There is no screening but room to work. This ground is used as a stock pile and waste site.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

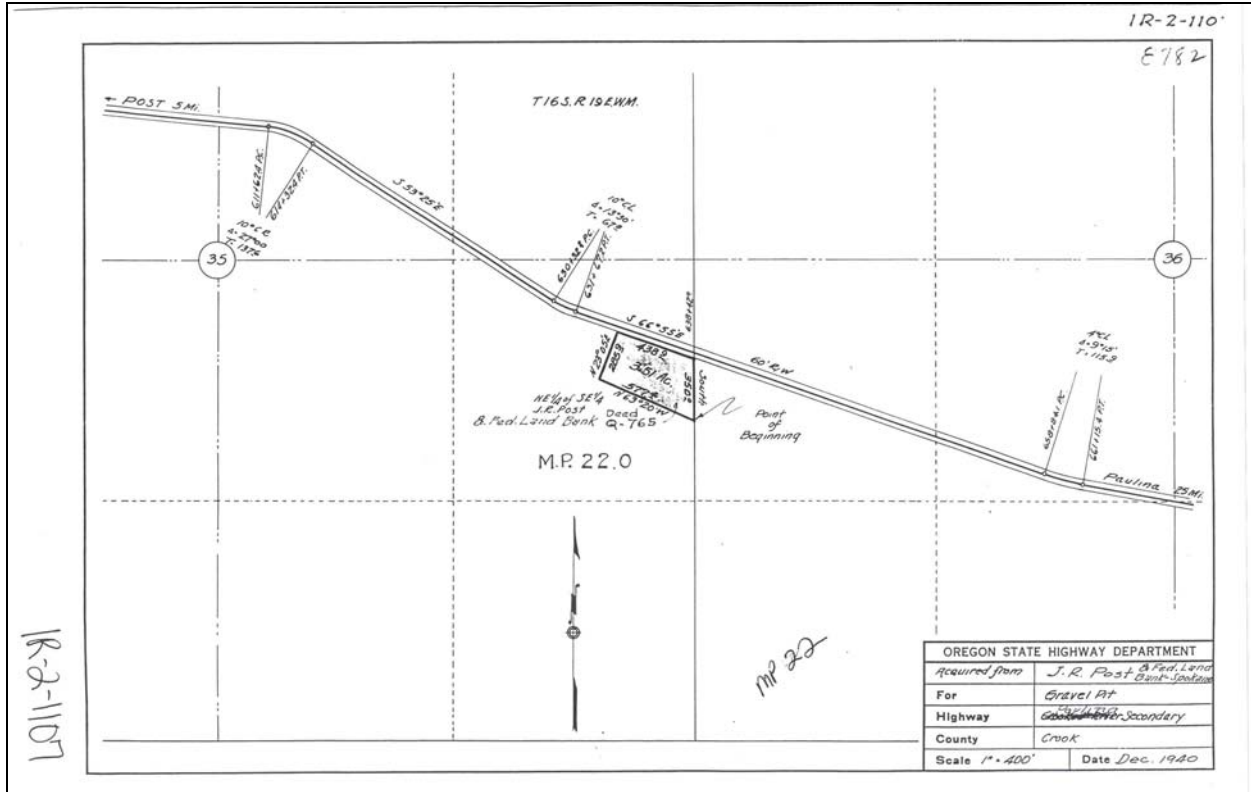
SW

NE



Looking northwest at the gravel site along Highway 380. The Crooked River is in the far left of the image.

Close-up view of the gravel at the site with the hammer for scale.



1R-2-1107

MP 22



Aerial view of the site between the Crooked River and Highway 380.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook	Lost Creek Quarry				10	0380	33.26	17S	20.0E	04
File ID		Source #	Date Visited	Map #		Type of Site				
27760		07-039-4	05/31/2000	1R-5-1132		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 07'43.2021"	120 20'7.46348"	1061.551	9.3	<2	07-0045					
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color		Weathering		Jointing				
Basalt	Tba	Medium Dark Grey (N4)		Fresh to Slight		Highly Fractured				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			R3+	186	85,000	213,435				
Potentially Significant Site	Why			Open/Closed	Direction					
No	NA			Closed	South about 200 meters is the Crooked River					
Adjacent Land Use										
Ranching										
Remarks										
This site is located adjacent to and north of Highway 380. The rock is a fine-grain basalt with very minor staining on the fracture surface. You can rip the rock for pit run material. There is a moderate amount of room to work but no screening from the highway. The terrain is moderately steep, around 25 to 30 degrees and there is little to no overburden. The quarry site is mostly on BLM ground with a small portion on ODOT controlled property.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.5	2.72		17.6	7.3						
Material Use										
AC (1984)										

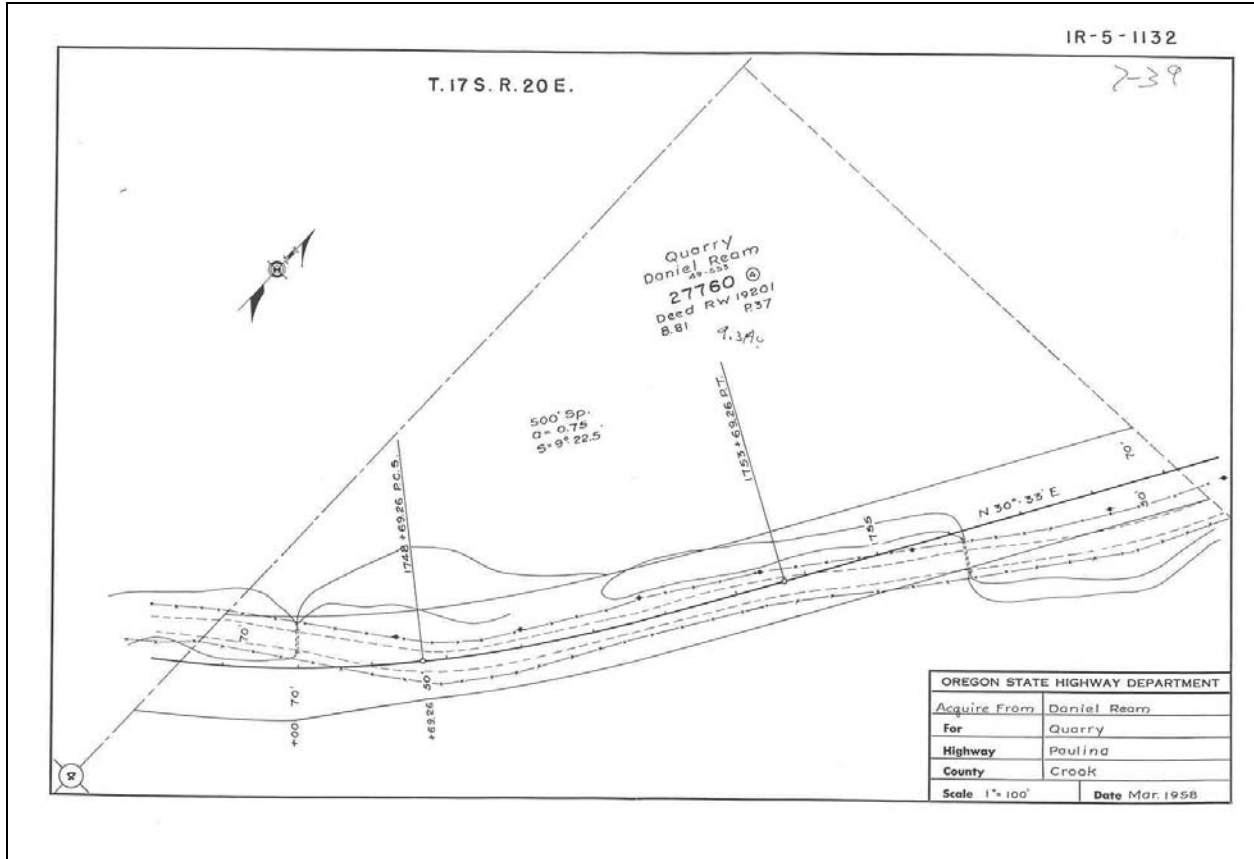
SW

NE



Looking northwest at the quarry site along Highway 380. Part of the site is on BLM ground.

Close-up view of the pit run material at this site.



Aerial view of the quarry site along Highway 380.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook				10	0380	38	17S	21.0E	06
File ID		Source #	Date Visited	Map #			Type of Site		
29952, 29951		07-040-4	05/02/2001	1R-5-1292, 1R-5-1404, 1R-5-1291			Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 07'07.26657"	120 14'51.05022"	1088.683	28.77	<2		07-0013			
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color		Weathering			Jointing		
Basalt	Tba	Dark Grey (N3)		Fresh to Slight			Highly Fractured		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good			R3+	177	675,000	1,612,913			
Potentially Significant Site	Why	Open/Closed		Direction					
No	USA Ground	Closed		South approximately 250 meters is the Crooked River.					
Adjacent Land Use									
Open Space									
Remarks									
Part USA and ODOT. This site is adjacent to and north of Highway 380. The rock here is a fine-grain, highly fractured basalt. The weathering is fresh with a thin olive colored rind. You can rip the rock and acquire minor rip rap. There is room to work with good screening from the highway. The terrain is gradual to moderate with the quarry site occupying a small hill. Approximately 50,000 cubic yards have been removed.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
2.75	2.81	15.2	5.6	1.2			19.1	0.4	
Material Use									
(1992)									

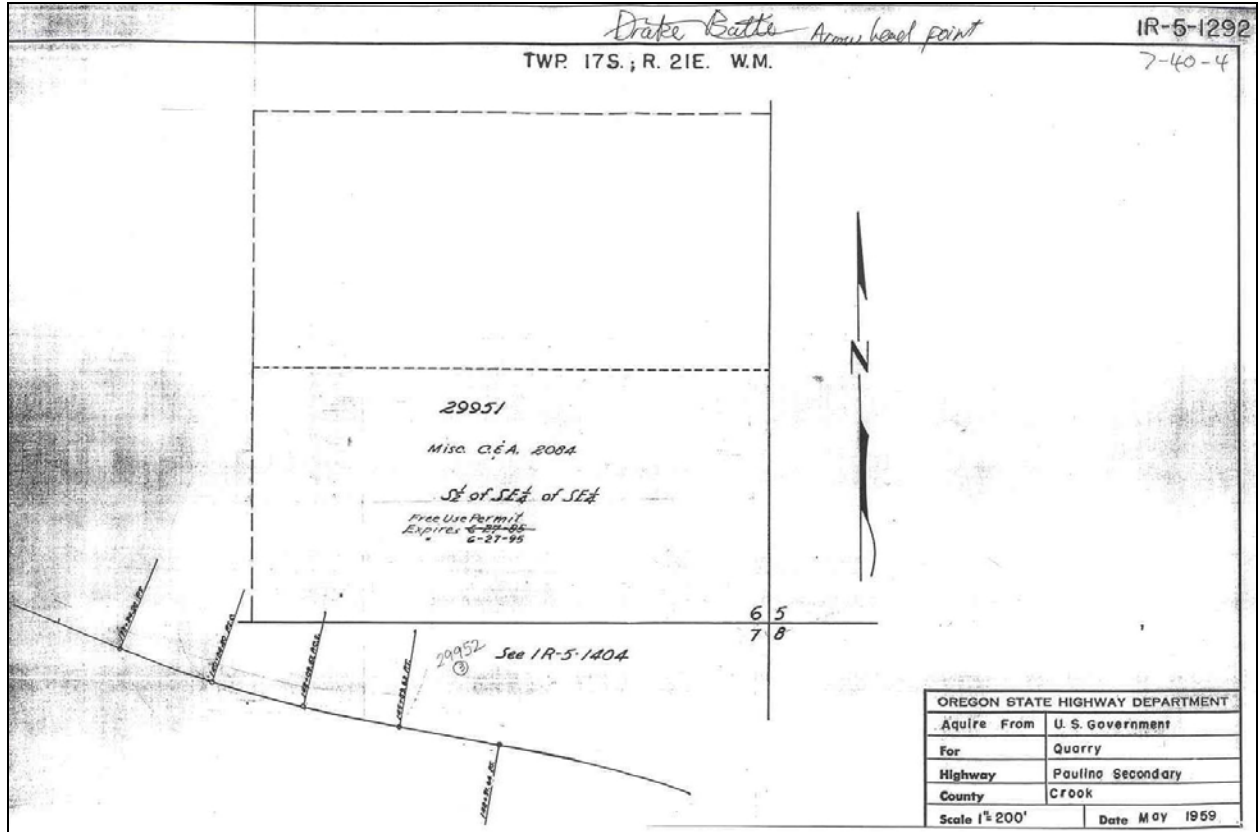
S

NE

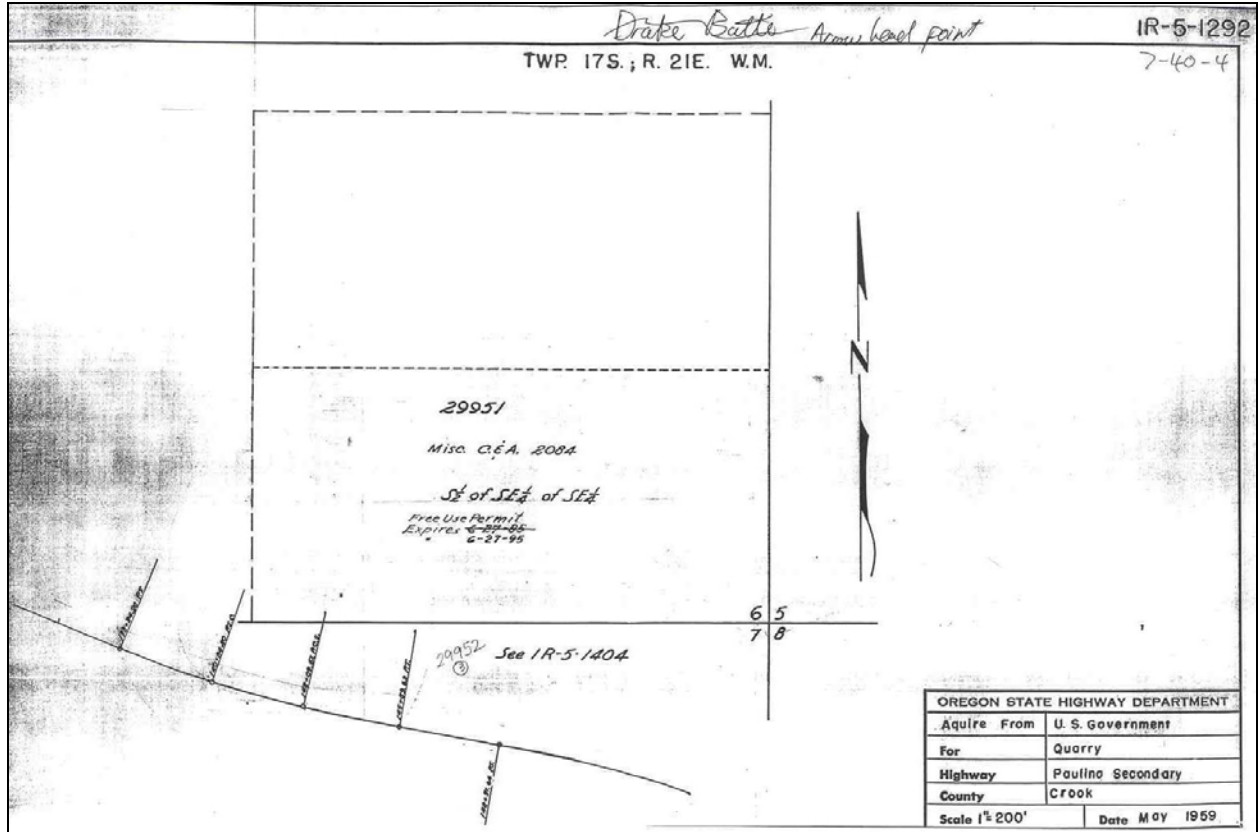


Panoramic view of the quarry site located north of Highway 380.

Close-up view of the fracture pattern of the basalt.



Aerial view of the quarry site located adjacent to and north of Highway 380.



County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook					10	0380	43.6	17S	21.0E	12
File ID		Source #	Date Visited	Map #		Type of Site				
08633		07-041-4	06/01/2000	1R-2-1081		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 06'49.78958"	120 09'42.13435"	1083.176	4.17	NA						
Comments										
GPS acquired along Highway 380.										
Rock Type	Unit	Color	Weathering		Jointing					
Volcanic Gravel	Qal	NA	NA		NA					
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good to Fair			NA	120	60,000	97,200				
Potentially Significant Site	Why			Open/Closed	Direction					
No	Too small			Closed	North about 700 meters is the Crooked River					
Adjacent Land Use										
Ranching										
Remarks										
This site is located adjacent to and south of Highway 380. The rock is a heterogeneous mix of size, shape, and lithology. There is about 40% rock and 60% sand/silt by volume. There is no access to the site (fenced) now. A rancher uses this site for a stock pond and grazing area. The terrain is flat. There is no screening from the highway with little room to work.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

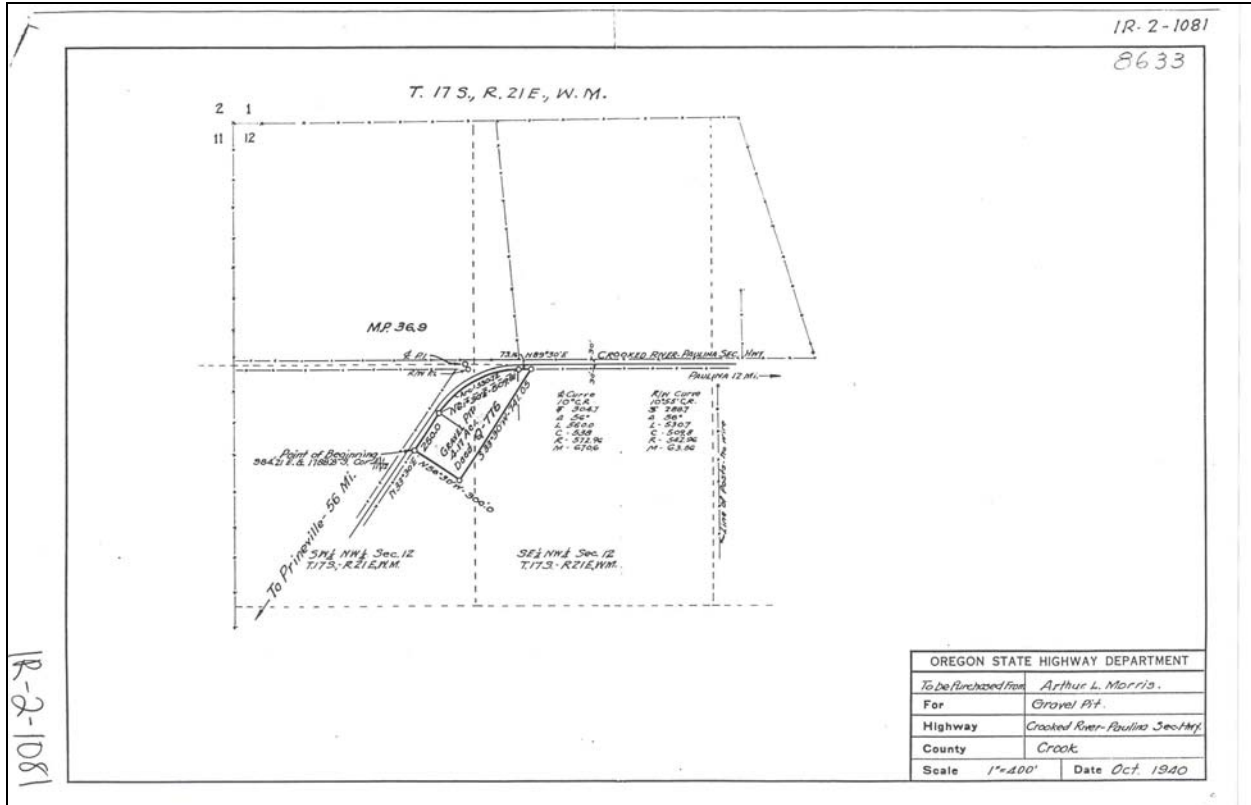
E

SW



Looking south at the borrow site along Highway 380.

Close-up view of the material at this location.



1R-2-1081



Aerial view of the site in relation to the surrounding area and Highway 380.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook	Prineville Sand and Gravel				10	0360	23.7	17S	220E	09
File ID		Source #	Date Visited	Map #		Type of Site				
29951		07-042-4	6/01/2000	1R-5-1291		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 06'19.70112"	120 06'47.06363"	1103.728	20	NA						
Comments										
GPS acquired at the access point and Highway 380.										
Rock Type	Unit	Color		Weathering			Jointing			
Volcanic Gravel	Tcp	NA		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good to Fair			NA	120						
Potentially Significant Site	Why			Open/Closed	Direction					
No	BLM ground			Closed	North about 700 meters is Beaver Creek					
Adjacent Land Use										
Ranching										
Remarks										
This site is located adjacent to and north of Highway 380. This ground is owned by the USA and has not been used for some time. The material is composed of a heterogeneous mix of size, shape, and rock lithologies. There is about 40% gravel, and 60% sand/silt by volume. The ground is flat and used for a stock pile site. There is room to work and no screening from the highway. The lease for this site has expired and would need to be assessed for future work.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

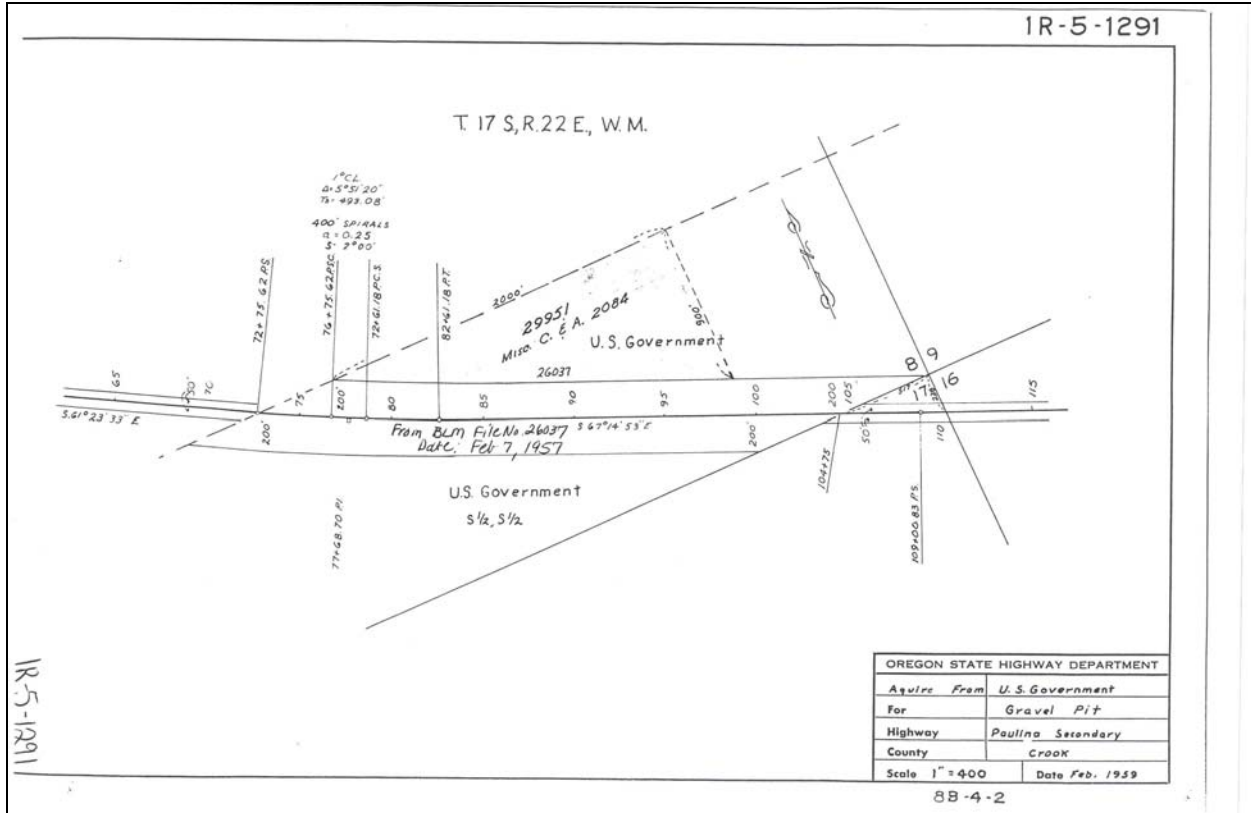
NW

NE



Looking to the north at the borrow site along Highway 380. It appears that the site has had some reclamation.

Close-up view of the gravel at this location with the hammer for scale.



Aerial view of the borrow site.
 Beaver Creek is in the upper right hand corner of the image.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook				10	0380	52.5	17S	23.0E	07
File ID		Source #	Date Visited	Map #			Type of Site		
26039		07-043-4	06/01/2000	1R-5-965			Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 06'26.16471"	120 01'15.98643"	1108.891	20.19	<1					
Comments									
GPS acquired at the base of the pit.									
Rock Type	Unit	Color		Weathering			Jointing		
Basalt	Tcp	Medium Dark Grey (N4)		Slight			Highly Fractured		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good to Fair			R3	174	300,000	704,700			
Potentially Significant Site	Why			Open/Closed	Direction				
No	NA			Closed	Adjacent to Beaver Creek				
Adjacent Land Use									
Ranching									
Remarks									
This site is located north of and adjacent to Highway 380. The rock is a fine-grain basalt that is slightly weathered and highly fractured. You can rip the rock for pit run. The terrain is steep at about 30 to 35 degrees. There is a minor amount of vesicular basalt exposed within the flows as well as some small highly weathered dikes. There is room to work but no screening from the highway.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
Material Use									

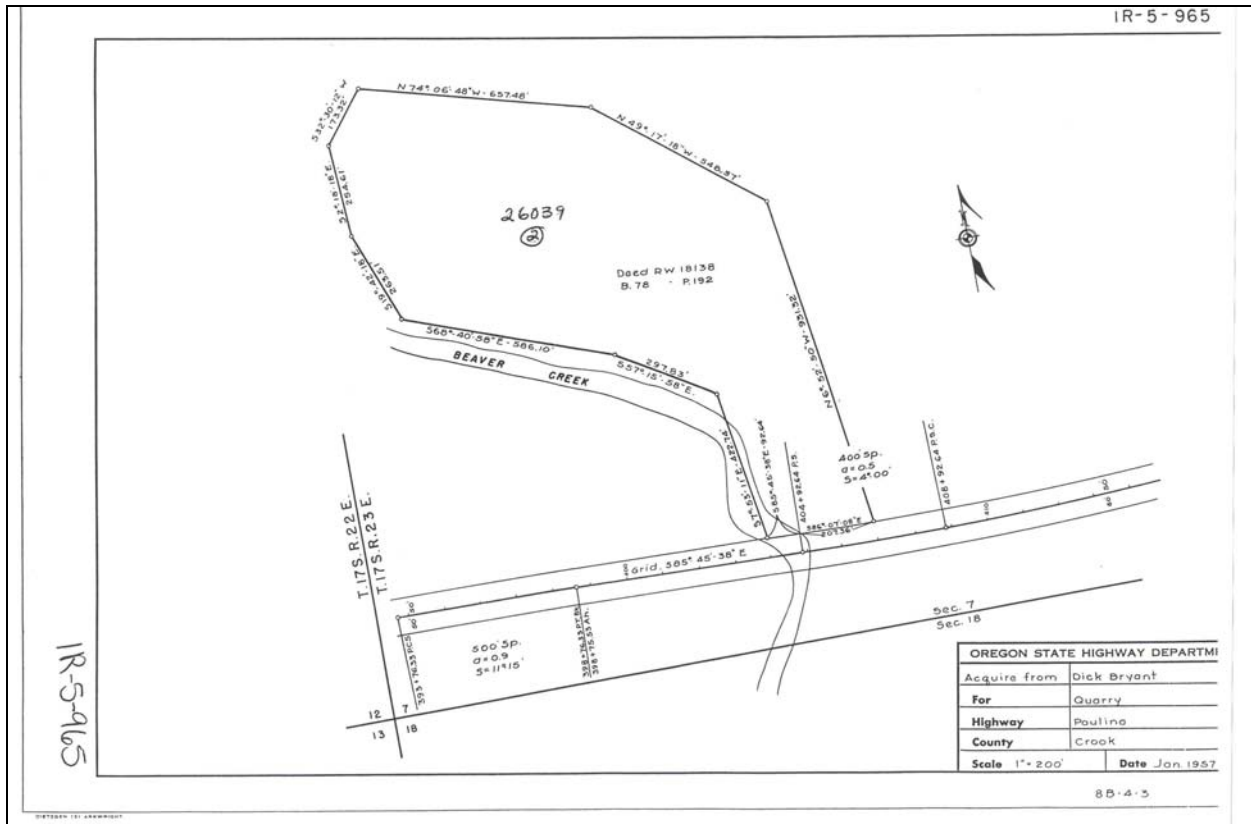
NW

NE



Looking north at the quarry site.

Close-up view of some of the pit run material with the hammer for scale.

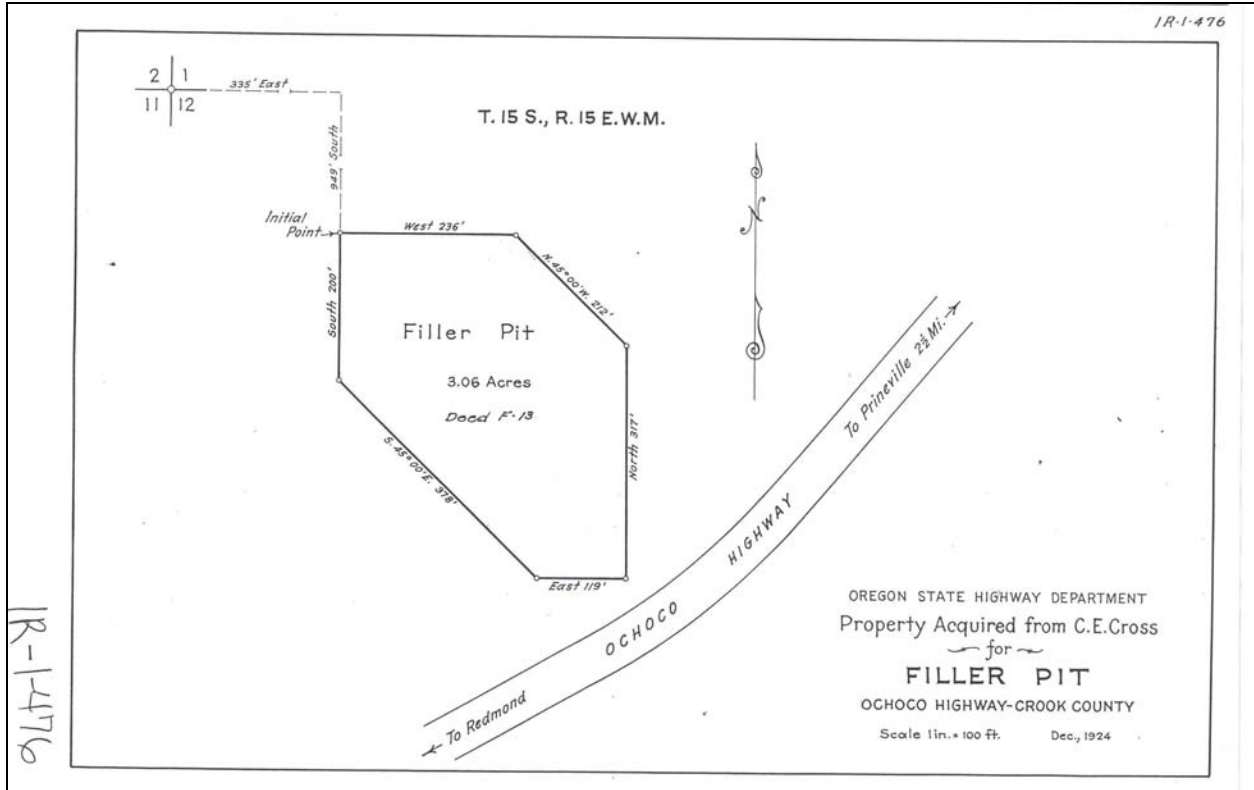


Aerial view of the quarry site that is adjacent to Beaver Creek and north of Highway 380.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Crook				10	0042	0	15S	15.0E	12
File ID		Source #	Date Visited	Map #			Type of Site		
F0013		07-901-4	11/03/1999	1R-1-476			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 17'19.98233"	120 53'05.71535"	981.697	3.06	NA					
Comments									
GPS acquired in the pit									
Rock Type	Unit	Color		Weathering			Jointing		
Volcanic Gravel	NA	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
NA			NA	120					
Potentially Significant Site	Why			Open/Closed	Direction				
No	Too small of acreage.			Closed	NA				
Adjacent Land Use									
Industrial Park. Inside the city limits of Prineville.									
Remarks									
This site is located north of Highway 126 in the Industrial Park west of the town of Prineville. This borrow site is used as a waste site now. The material at this site is composed of silt and some sand. There is no screening from the highway and there is plenty of room to work. The terrain is flat with minor past disturbances. This site should be evaluated for surplus per Region 4 Geology.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
Material Use									



Looking northwest at the borrow site along Highway 126.



Aerial view of the borrow site along the highway.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes	Weigand P.T.			10	0004	115.26	14S	13.0E	18
File ID		Source #	Date Visited	Map #			Type of Site		
18110		09-002-4	8/24/1999	1R-5-181			Cinder Pit		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 20'57.49555"	121 12'35.80421"	937.894	20	<4		09-0168			
Comments									
GPS acquired at access point									
Rock Type	Unit	Color		Weathering			Jointing		
Cinder	QTp	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good			NA	120	700,000	1,134,000			
Potentially Significant Site	Why			Open/Closed	Direction				
No	This is leased ground.			Closed	NA				
Adjacent Land Use									
Ranching/Farming/Residential adjacent.									
Remarks									
This site is located about 2 miles west of Terrebonne. It is a cinder pit that is owned by the Federal Government. The cinder is fairly clean and there would be minimal crushing here. There is some screening with plenty of room to work. Some of the home sites are adjacent to the property boundary and seem to be too close to the bench walls. Locked gate, some tall vertical walls, quantity calculation is the maximum. The north/south measurement is larger than the 1R-map delineates.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.91	49.0							
Material Use									
SAND AG (1957)									

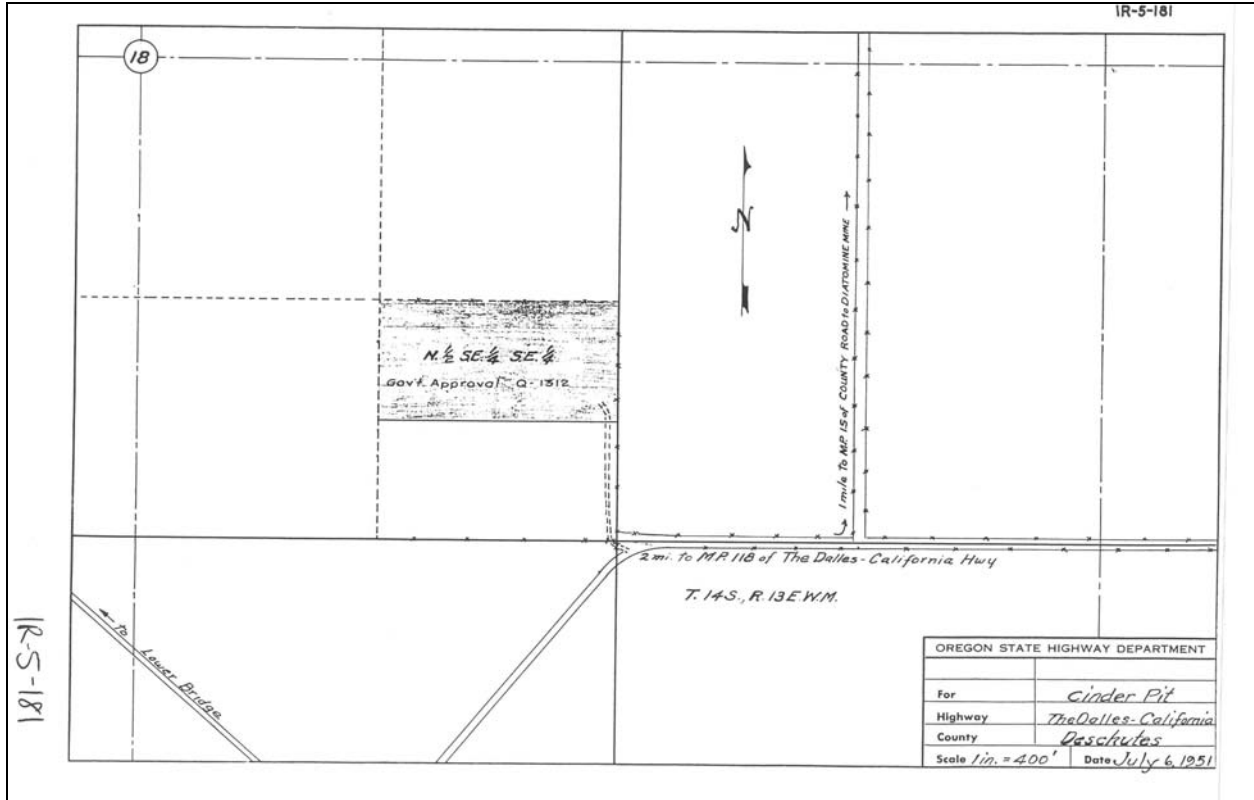
S

N



Looking west at one of the cinder pits in this general vicinity.

Close-up view of the scoriaceous basalt (cinder).



Aerial view of the cinder pit and the surrounding area.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes	Terrebonne Cinder Pit				10	0004	115.2	14S	13.0E	16
File ID		Source #	Date Visited	Map #		Type of Site				
20833		09-003-4	8/25/1999	1R-5-446		Cinder Pit				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 21'32.21632"	121 11'18.79531"	853.048	26	<21						
Comments										
GPS acquired at the locked gate.										
Rock Type	Unit	Color		Weathering		Jointing				
Cinder	QTp	NA		NA		NA				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
NA			NA	120						
Potentially Significant Site	Why			Open/Closed	Direction					
No	Depleted			Closed	NA					
Adjacent Land Use										
Town of Terrebonne										
Remarks										
This property is located on the west side of Terrebonne. There is no screening and plenty of room to work here. The site is surrounded by residential homes on acreage. There are some homes here that are too close to the high wall and could pose a danger. This ground is in the process of being filled in with waste rock and materials. It appears that there is no more removal of cinder at this location.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

SE

SW



Looking south at the cinder pit and the homes up on top of the hill in the background.

NE

SE



Looking east at the cinder pit located west of the town of Terrebonne, OR.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0004	118.52	14S	13.0E	29
File ID		Source #	Date Visited	Map #		Type of Site				
15307, 15369, 15368, 15367		09-004-4	8/25/1999	1R-2-1895,1R-2-1892		Raw Land				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 19'43.40000"	121 11'25.20000"	913	41.94	NA						
Comments										
GPS acquired at county road and BLM ground.										
Rock Type	Unit	Color	Weathering			Jointing				
Basalt	QTb	NA	NA			NA				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair to Good			NA	120						
Potentially Significant Site	Why			Open/Closed	Direction					
No	Leased ground			Closed	NA					
Adjacent Land Use										
Residential homes on acreage surround the property.										
Remarks										
This is raw land west of Highway 97 about one mile. There are limited exposures to evaluate the basalt. The quality of the basalt would be fair to poor. This ground is leased from the USA. There is no prior disturbance that I could find. There are many new residential homes on acreage that surround this site now. The easement is no longer evident. I went up Galloway Avenue to reach this property.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	2.82	50.9								
Material Use										
SAND AG (1949)										

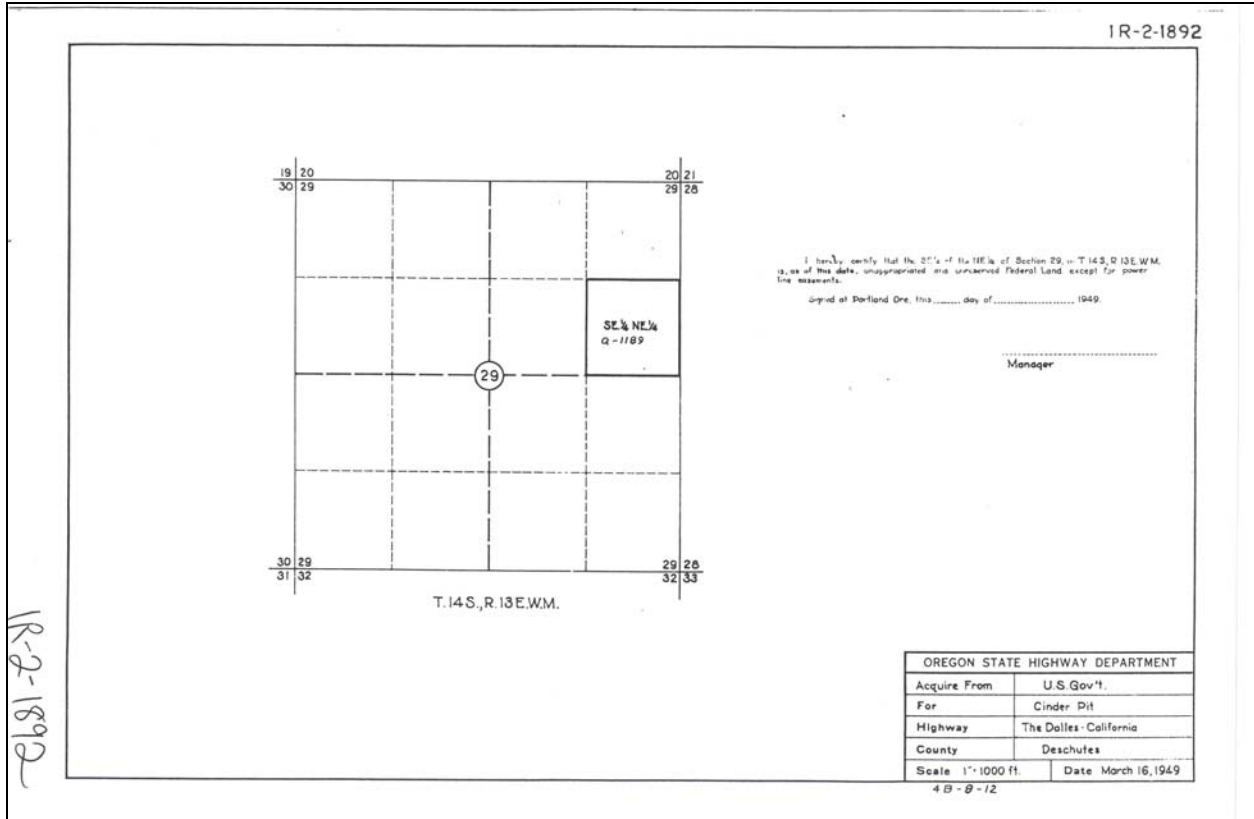
NE



Looking up to the hill top site from the southwest.



Close-up view of the vesicular basalt in the area, with the hammer for scale.



Aerial view of the site and the surrounding area.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0004	118.52	14S	13.0E	29
File ID		Source #	Date Visited	Map #			Type of Site			
17287		09-005-4	8/25/1999	1R-2-105			Raw Land			
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #				
44 19'36.48746"	121 11'19.07434"	938.961	80	NA						
Comments										
GPS acquired at site 09-004-4										
Rock Type	Unit	Color		Weathering			Jointing			
Basalt	QTb	NA		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair to Good			NA	120						
Potentially Significant Site	Why			Open/Closed	Direction					
No	Leased ground			Closed	NA					
Adjacent Land Use										
Residential homes on acreage surround the property.										
Remarks										
This site is adjacent to site 09-004-4. This is raw land west of Highway 97 about one mile. There are limited exposures to evaluate the basalt. The quality of the basalt would be fair to poor. This ground is leased from the USA. There is no prior disturbance that I could find. There are many new residential homes on acreage that surround this site now. The easement is no longer evident.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	2.82	50.9								
Material Use										
SAND AG (1949)										

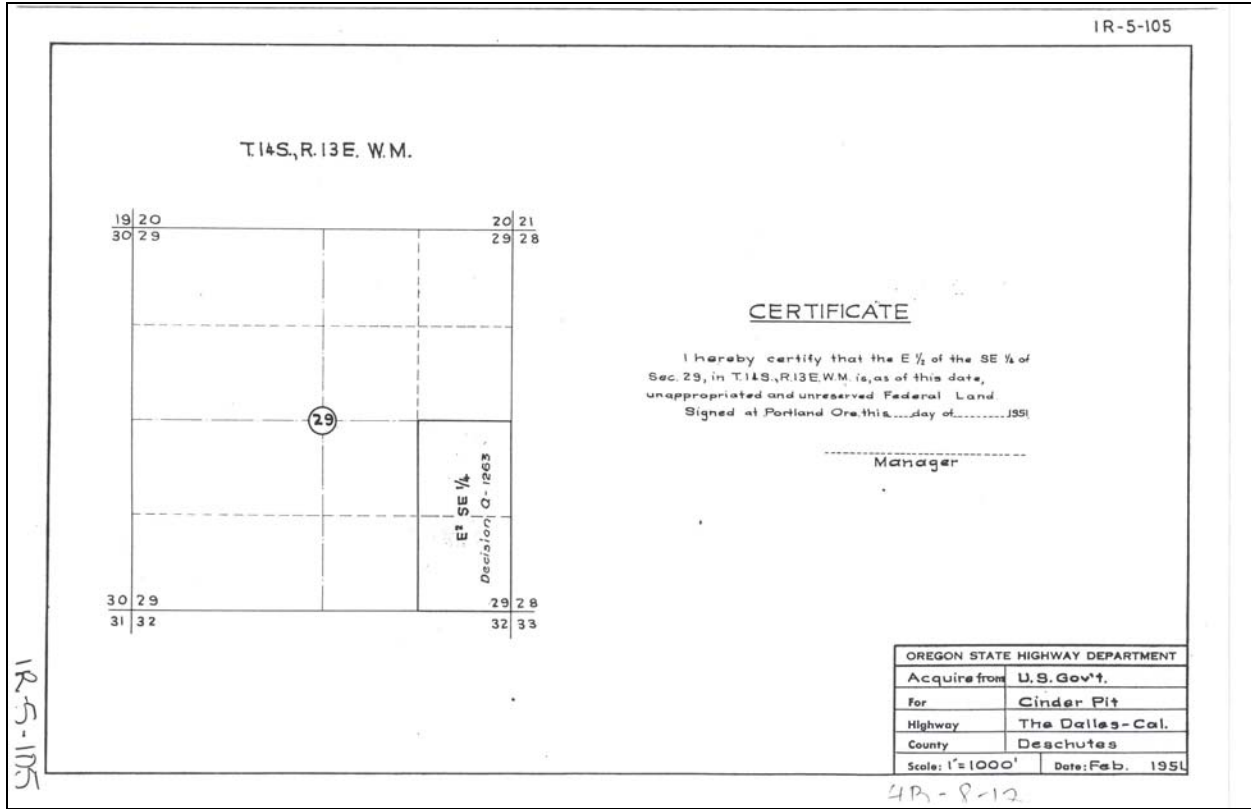
NE



Looking up to the hill-top site from the southwest.



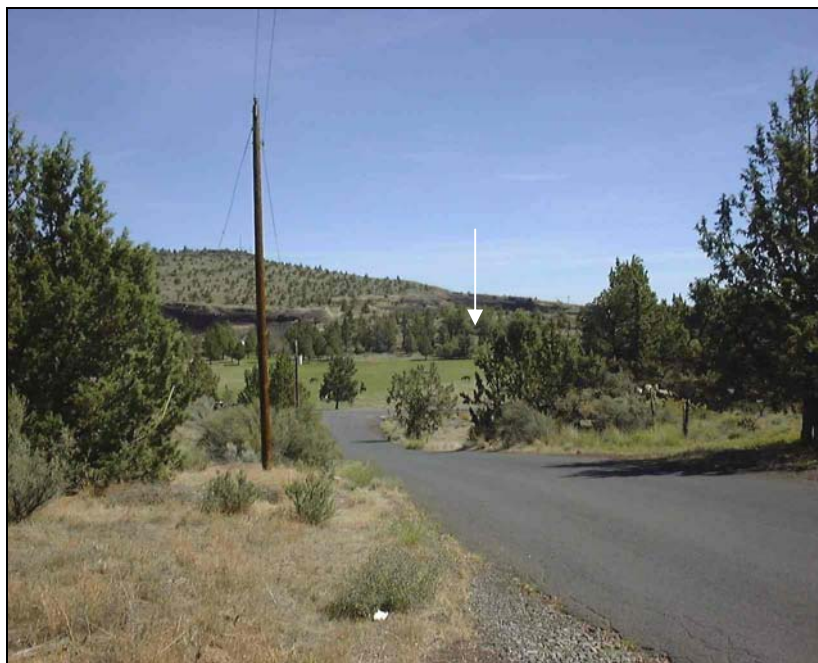
Close-up of the vesicular basalt in the area, with the hammer for scale



Aerial view of the site and the surrounding area.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes	Redmond Cinder Pit				10	0004	118.52	14S	13.0E	33
File ID		Source #	Date Visited	Map #		Type of Site				
14908, F0055		09-006-4	8/25/1999	1R-1-1193		Cinder Pit				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 18'45.20000"	121 11'09.34000"	884	5	NA						
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type	Unit	Color		Weathering		Jointing				
Cinder	QTP	NA		NA		NA				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			NA	120	50,000	81,000				
Potentially Significant Site	Why				Open/Closed		Direction			
No	Small acreage, limited room to work, area has residential development.				Closed		NA			
Adjacent Land Use										
Private quarries/Residential property										
Remarks										
This site is west of Highway 97 about one mile. The ground was not found amongst multiple private quarries. No easement was evident. This site would need a current survey to evaluate property. From the adjacent ground the cinder in this area is limited to 25 feet thick. The cinder sits on top of a Tuff/Pyroclastic Unit. The cinder deposit thickens as you move south. This site might be depleted, but I calculated a quantity based on assumptions that the property I viewed was ours.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	2.75	43.6								
Material Use										
SAND AG (1953)										

E



Looking east at the general area of the cinder pit.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0004	121.52	18S	12.0E	30
File ID		Source #	Date Visited	Map #		Type of Site				
19572		09-012-4	05/31/2000	1R-2-1156		Cinder Pit				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 58'57.62803"	121 20'14.47026"	1216.42	22.45	NA	09-0129					
Comments										
GPS acquired at the locked gate.										
Rock Type	Unit	Color	Weathering		Jointing					
Cinder	QTp	NA	NA		NA					
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			NA	120	160,000	259,200				
Potentially Significant Site	Why			Open/Closed	Direction					
No	Cinder pit			Closed	NA					
Adjacent Land Use										
Ranching/Open space										
Remarks										
This site is east of Highway 97 about 300 meters. The haul road is not used anymore, but you access the pit from Knott Road to a County Road. This is a good close source of scoriaceous basalt (cinder). The cinder is a heterogeneous mix of size from sand to large boulder. There is some screening with ample room to work. Minor waste site, locked gate.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

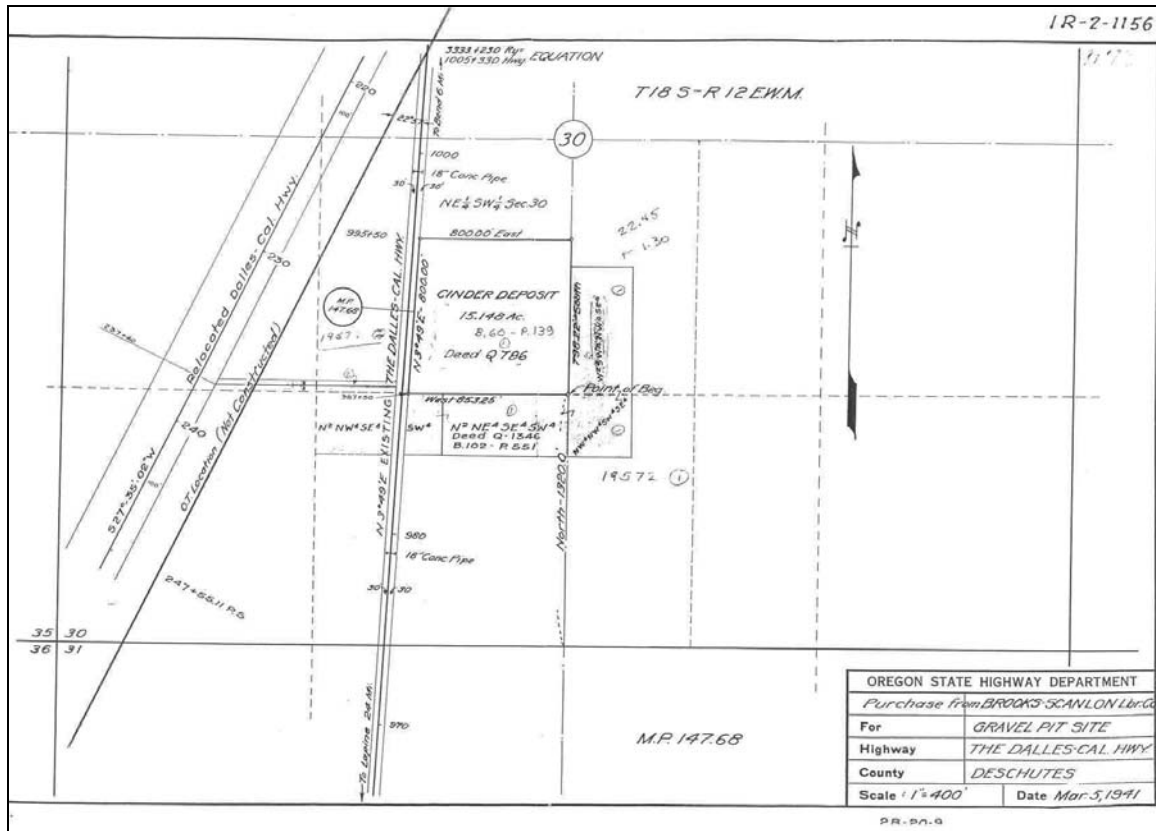
NW

SE



Looking north at the cinder pit along a County Road. The access point is in the left side of the image.

Close-up view of the scoriaceous basalt in the pit.



Aerial view of the cinder pit with the access point from Highway 97.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0004	159.3	21S	11.0E	06
File ID		Source #	Date Visited	Map #		Type of Site				
S0677		09-015-4	05/31/2000	1R-1-1727		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 47'13.37499"	121 26'52.97295"	1278.035	40	NA						
Comments										
GPS acquired along Highway 97.										
Rock Type	Unit	Color	Weathering		Jointing					
Volcanic Gravel	Qs	NA	NA		NA					
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair			NA	120	160,000	259,200				
Potentially Significant Site	Why	Open/Closed		Direction						
No	BLM ground	Closed		West about 1000 meters is the Little Deschutes River						
Adjacent Land Use										
Open space										
Remarks										
This site is adjacent to and west of Highway 97. This is raw land with some minor disturbances on flat terrain. There is a high percent of sand (90%) to gravel (10%). A lot of cinder and pumice laying around. There is plenty of room to work and good screening from the highway. The rail line in the area bisects property. The site is in a pine forest (small trees). This is BLM ground.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.71							14.16	1.2		
Material Use										
CTB, BORROW, Pit Run and Gravel (1967)										

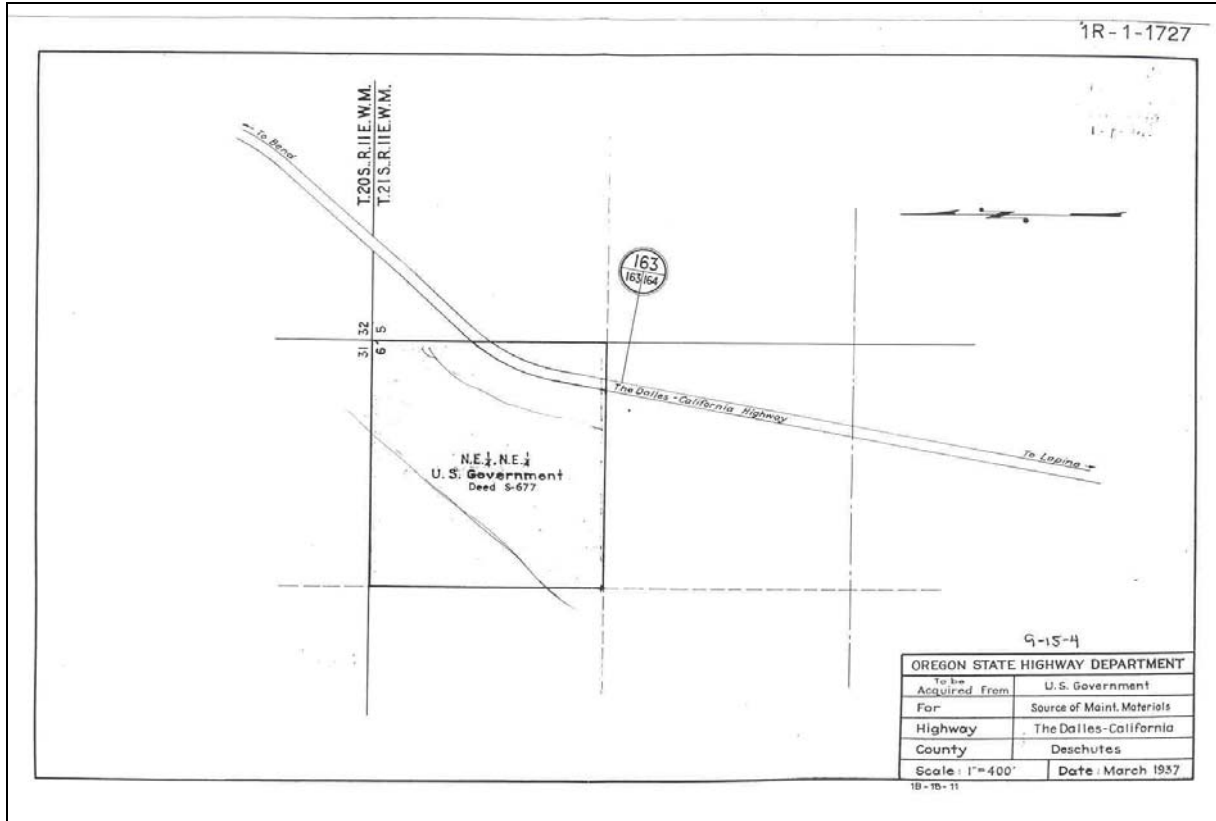
S

W



Looking to the southwest at the entrance point to the borrow site along Highway 97.

Close-up view of the cinder material at this site.



Aerial view of the borrow site between the highway and the rail line.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes				10	0004	161.86	21S	11.0E	18
File ID		Source #	Date Visited	Map #			Type of Site		
21059		09-017-4	11/02/1999	1R-5-465			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 45'11.38923"	121 27'21.20264"	1282.108	20.37	<1					
Comments									
GPS acquired in the pit									
Rock Type	Unit	Color		Weathering			Jointing		
Volcanic Gravel	Qs	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good to Fair			NA	120	55,000	89,100			
Potentially Significant Site	Why	Open/Closed	Direction						
No	Leased ground.	Closed	Paulina Creek is to the southwest approximately 700 meters.						
Adjacent Land Use									
Rural/Residential									
Remarks									
This site is located at the junction of Highway 97 and Paulina Lake Road. The material is composed of small size gravel (40%) that is less than 15 millimeters, and sand (60%) by volume. Three quarters of the pit is now a pond with vegetation growing in it. There is some screening and some room to work. This is leased ground from the USA. This is a wetland site now per Region Geology. The information center to Newberry Crater is across the road from this location. There are minor quantities of Pine trees about 35 feet tall. It appears that 80,000 cubic yards have been removed to date.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.75								
Material Use									
CTB, BORROW (1970)									

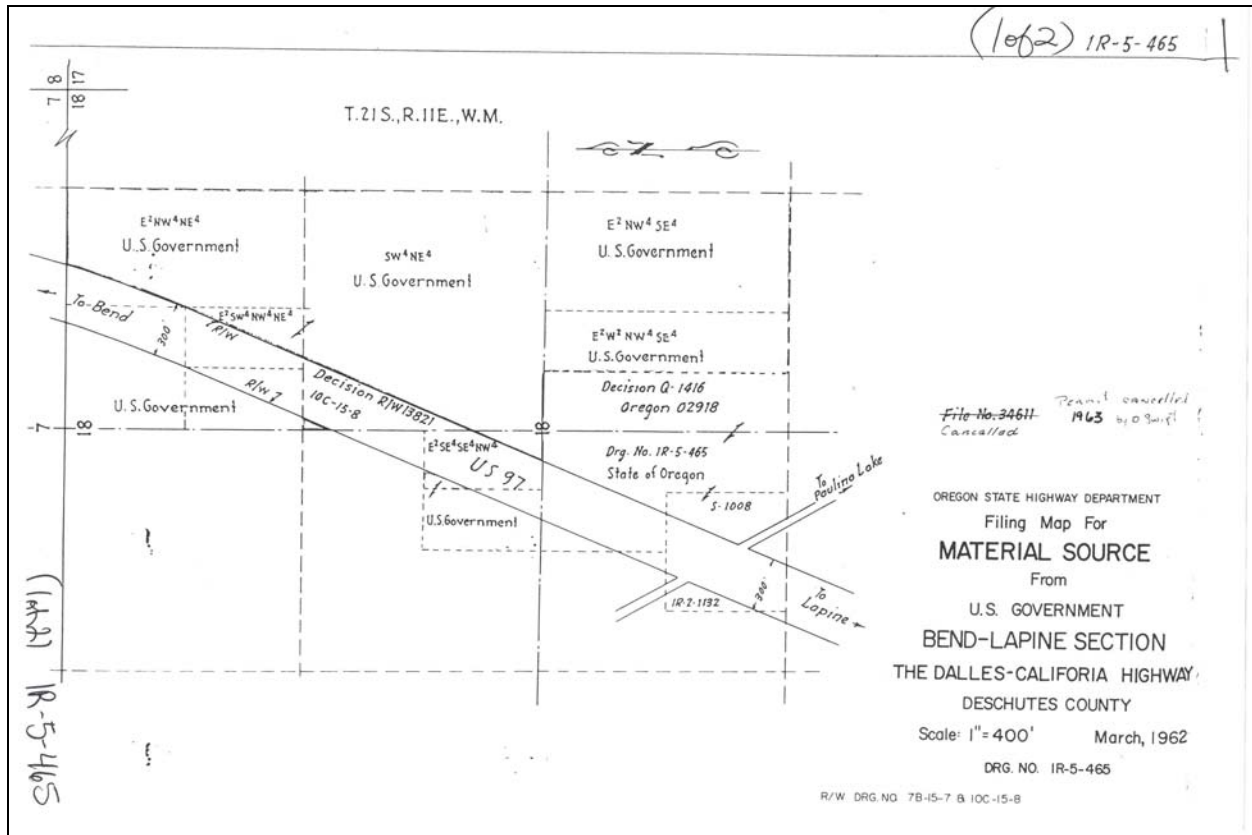
SW

NE



Looking to the west at the borrow site just east of Highway 97.

Close-up view of the volcanic material at this location.



Aerial view of the borrow site in relation to the surrounding area and Highway 97.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes	Wood Chopper Butte				10	0004	167.87	22S	11.0E	01
File ID		Source #	Date Visited	Map #		Type of Site				
Q0523		09-020-4	11/02/1999	1R-1-1748		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 42'16.97577"	121 28'12.89871"	1291.217	40	<23						
Comments										
GPS acquired at the access point to the pit off of Rosland Road.										
Rock Type	Unit	Color		Weathering		Jointing				
Volcanic Gravel	Qs	NA		NA		NA				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			NA	120	300,000	486,000				
Potentially Significant Site	Why			Open/Closed	Direction					
No	USA ground			Closed	NA					
Adjacent Land Use										
Commercial/Residents on acreage.										
Remarks										
This site is located less than a mile east of Highway 97, and north of La Pine, OR. The material is from glacial outwash. The gravel is composed of a heterogeneous mix of size and shape. The dominant size is in the sand/silt range, with 80% sand and 20% gravel mix. There is no screening and plenty of room to work. This site is open to the public for off road activities. The access road has changed and a new County Road (Rosland) is the access to the site now. The area is being developed for residential construction. USA ground.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

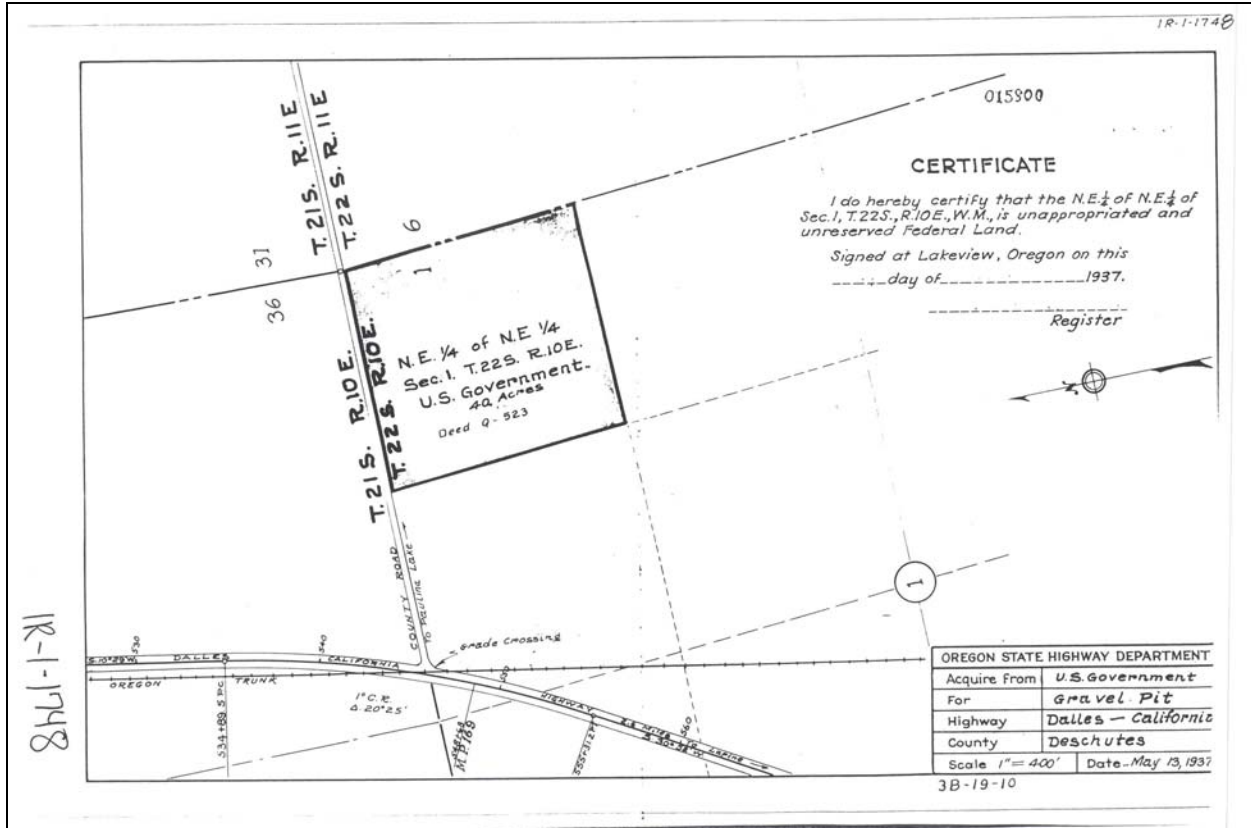
E

S

W



View to the south of the borrow site that is east of Highway 97.
This site is used for off road activities

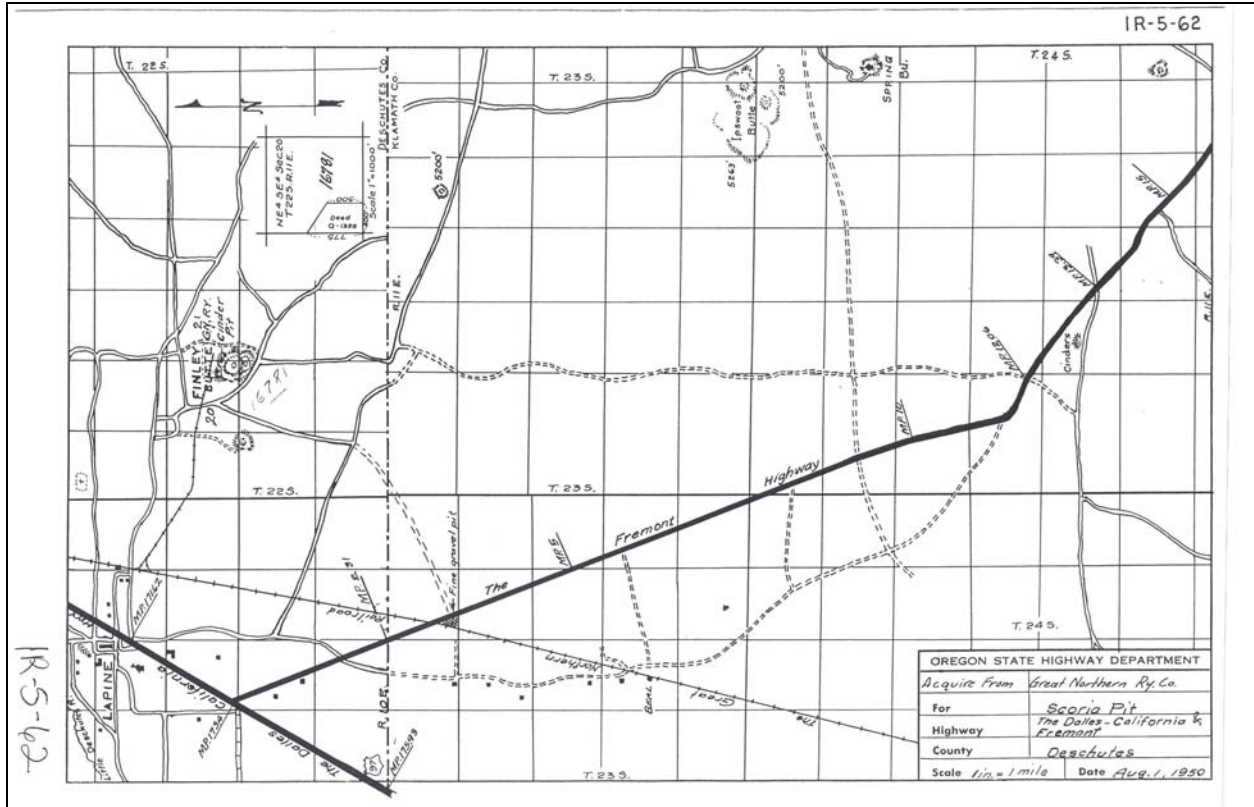


Aerial view of the borrow site that is east of Highway 97.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes	Finley Butte			10	0004	167.87	22S	11.0E	20
File ID		Source #	Date Visited	Map #			Type of Site		
16781		09-021-4	11/02/1999	1R-5-62			Cinder Pit		
Latitude		Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #		
43 38'48.93183"		121 25'41.98784"	1400.819	5.85	<2		09-0142		
Comments									
GPS acquired on the road south and adjacent to the pit.									
Rock Type		Unit	Color	Weathering			Jointing		
Cinder		QTp	NA	NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)		Reserve (Tons)		
Good			NA	120	80,000		129,600		
Potentially Significant Site	Why					Open/Closed	Direction		
No	Good source of sanding material that is close to LaPine and Highway 97.					Closed	NA		
Adjacent Land Use									
National Forest									
Remarks									
This site is east of La Pine at the base of Finley Butte. The site I visited in November of 1999 is Forest Service ground. Maintenance had their portable crusher here producing about 20,000 cubic yards of sanding material for the La Pine Maintenance Yard. There is good screening and room to work at this location. The cinder here is a good clean scoriaceous basalt that is easy to rip and process. The quantity I calculated is based on a 5 acre parcel of ground and a 10 foot lift.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
2.64			1.4				18.6	0.5	
Material Use									
AC (1992)									



Looking to the north at the process of crushing the cinder at Finley Butte.



Aerial view of the cinder site east of La Pine, OR.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes	La Pine Gravel Pit			10	0004	167.87	22S	11.0E	18
File ID		Source #	Date Visited	Map #			Type of Site		
08927		09-022-4	11/02/1999	1R-2-1131			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #				
43 39'53.63896"	121 27'0"7.75941"	1305.823	120	<10					
Comments									
GPS acquired at the edge of the pit.									
Rock Type	Unit	Color	Weathering			Jointing			
Volcanic Gravel	Qs	NA	NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good			NA	120	200,000	324,000			
Potentially Significant Site	Why			Open/Closed	Direction				
No	Borrow site			Closed	NA				
Adjacent Land Use									
National Forest									
Remarks									
This site is located a couple of miles east of La Pine. The material here is a heterogeneous mix of sizes and shapes of volcanic gravel. The pit occupies a topographic draw on the west flank of Newberry Crater. This is most likely a glacial outwash plain. The material has a mix of 70% sand and 30% pea gravel by volume. There is screening from the road and plenty of room to work. Power lines bisect the property. We own almost 120 acres but about 60 is classified as excess in the Right of Way data base. There is some timber value here. The town of LaPine is to use this area for subsurface water per Region Geology. The County has the use of this site also. Ground is used as a motto cross area and gun range. Approximately 75,000 cubic yards removed.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
2.43	2.51			5.3			10.3	1.8	
Material Use									
AC (1979)									

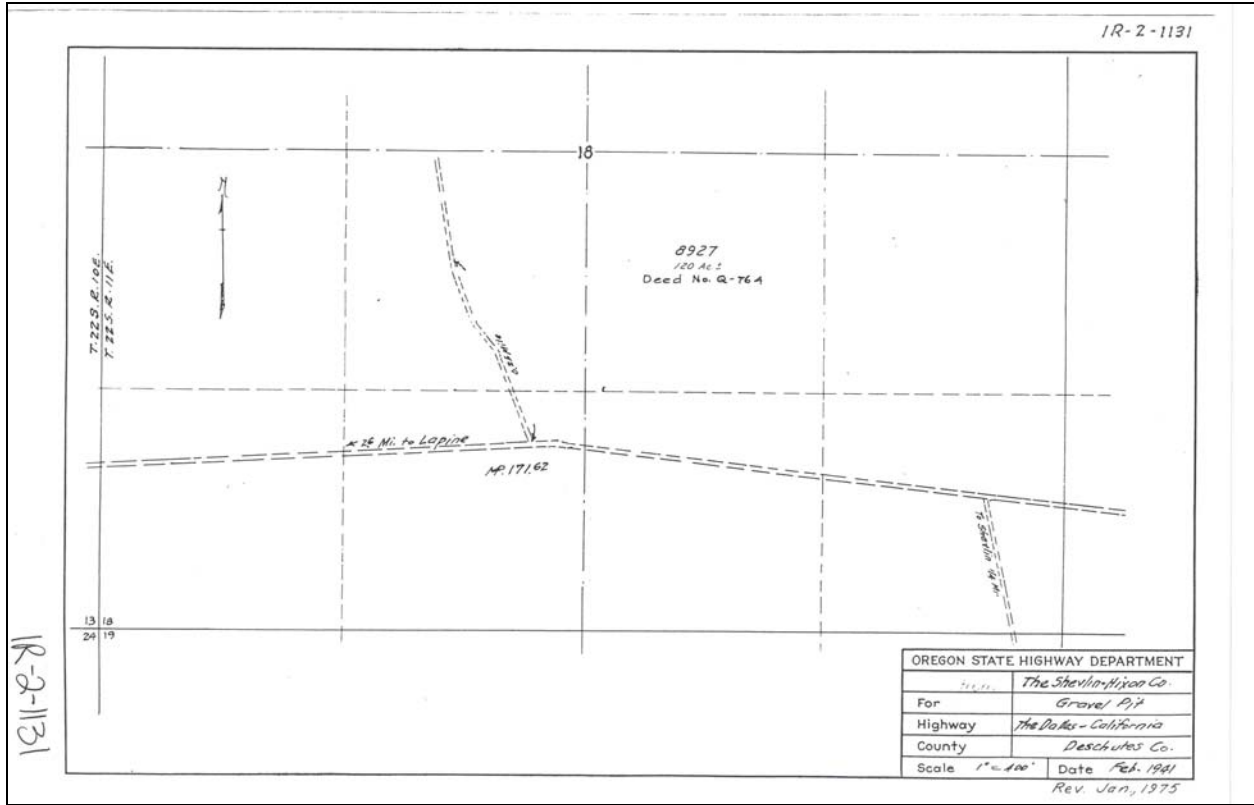
W

E



Panoramic view to the north of the borrow site located east of La Pine, OR.

Close-up view of the volcanic material at this location.



Aerial view of the borrow site and the surrounding area.
The linear feature running through the pit are high power lines.

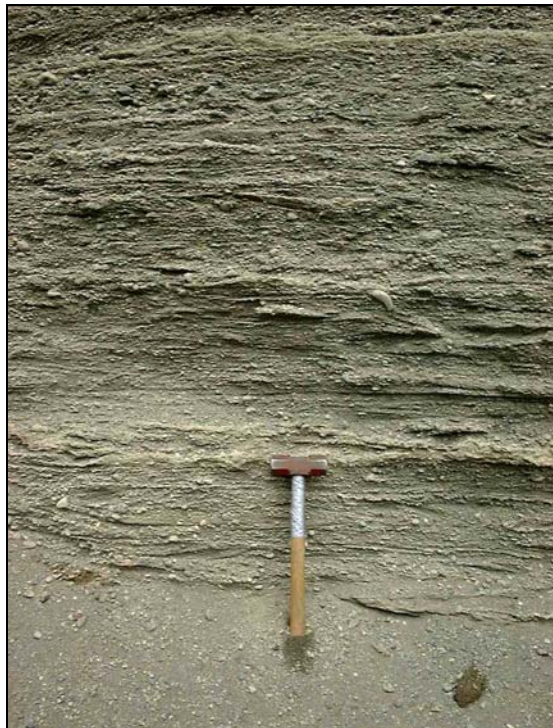
County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0007	16.37	19S	14.0E	04
File ID		Source #	Date Visited	Map #		Type of Site				
Q0235		09-026-4	05/30/2000	1R-1-1018		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 57'6.40578"	121 03'45.92213"	1133.549	20	<10	09-0145					
Comments										
GPS acquired at the access point.										
Rock Type	Unit	Color	Weathering		Jointing					
Volcanic Gravel	QTg	NA	NA		NA					
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair to Good			NA	120	160,000	259,200				
Potentially Significant Site	Why			Open/Closed	Direction					
No	Borrow site in an area of many borrow sites.			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This site is located about 800 meters south of Highway 20, off of a County Road. The material is a wind blown sand (40%) and small pebbles (60%) on flat terrain. The depth to bedrock is unknown. There is room to work with no screening from the County Road. This site is used for a sanding source. There is a small quarry adjacent to the south that is just about to open up some ground.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	1.97	29.8					11.0	1.2		
Material Use										
CTERM (1986)										

SE

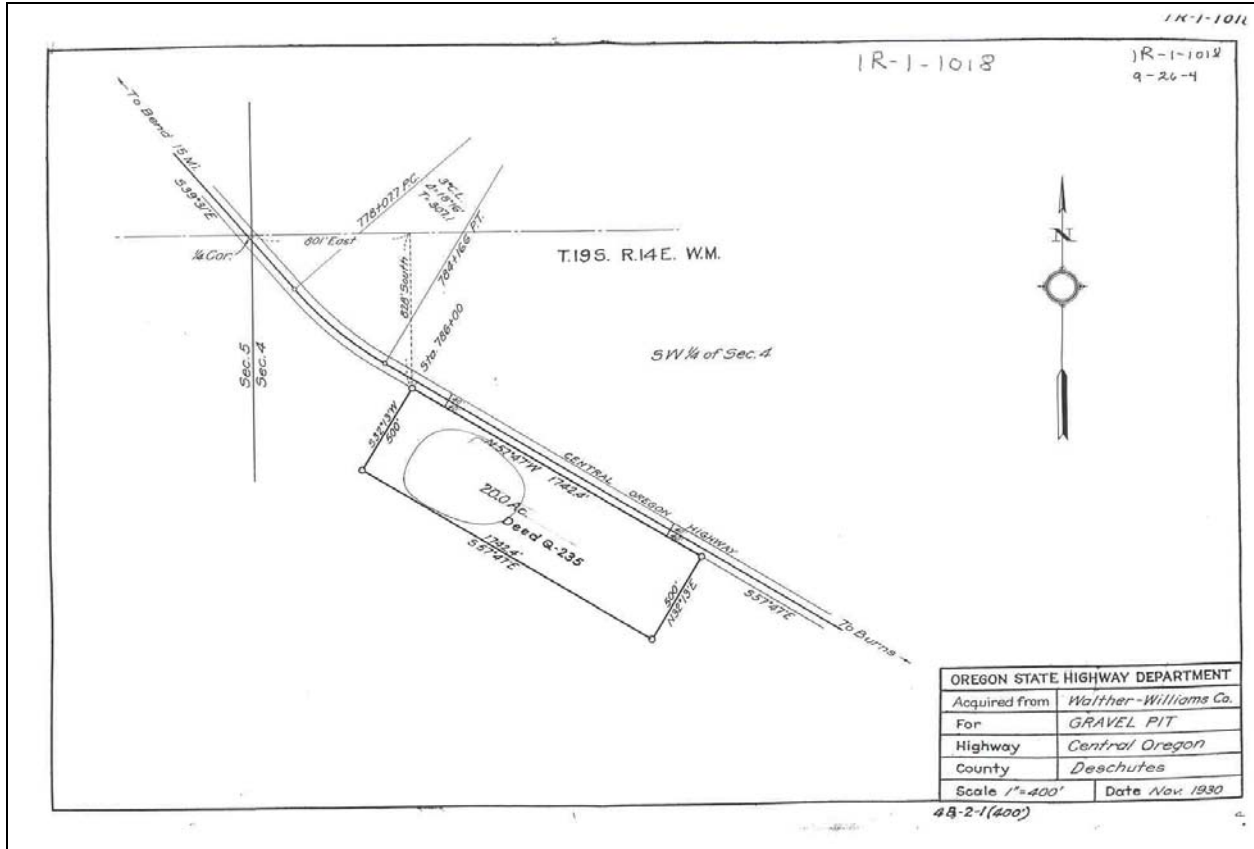
SW



Looking southwest at the borrow site along Horse Ridge Fr. Road.



Close-up view of the wind blown volcanic deposits at this site.



Aerial view of the borrow site along the County Road.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes	Horse Ridge Gravel Site			10	0007	0	19S	14.0E	11
File ID		Source #	Date Visited	Map #			Type of Site		
25874		09-027-4	05/03/2001	10C-43-9			Stock Pile Site		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 56'34.26303"	121 01'27.84524"	1107.641	30	Multiple		09-0033			
Comments									
GPS acquired on site									
Rock Type	Unit	Color		Weathering			Jointing		
Volcanic Colluvium	Qb	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
NA			NA	155	320,000	669,600			
Potentially Significant Site	Why			Open/Closed	Direction				
No	NA			Closed	NA				
Adjacent Land Use									
Open Space									
Remarks									
This site is located adjacent to and east of Highway 20. This is now a stock pile site for Maintenance use. There are multiple borrow pits in the area that have been naturally reclaimed. The terrain is flat with ample room and no screening from the highway. Unknown depth to bedrock at this location.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
2.43	2.51	29.2	2.9	1.6			19.3	1.5	
Material Use									
AC (1991)									

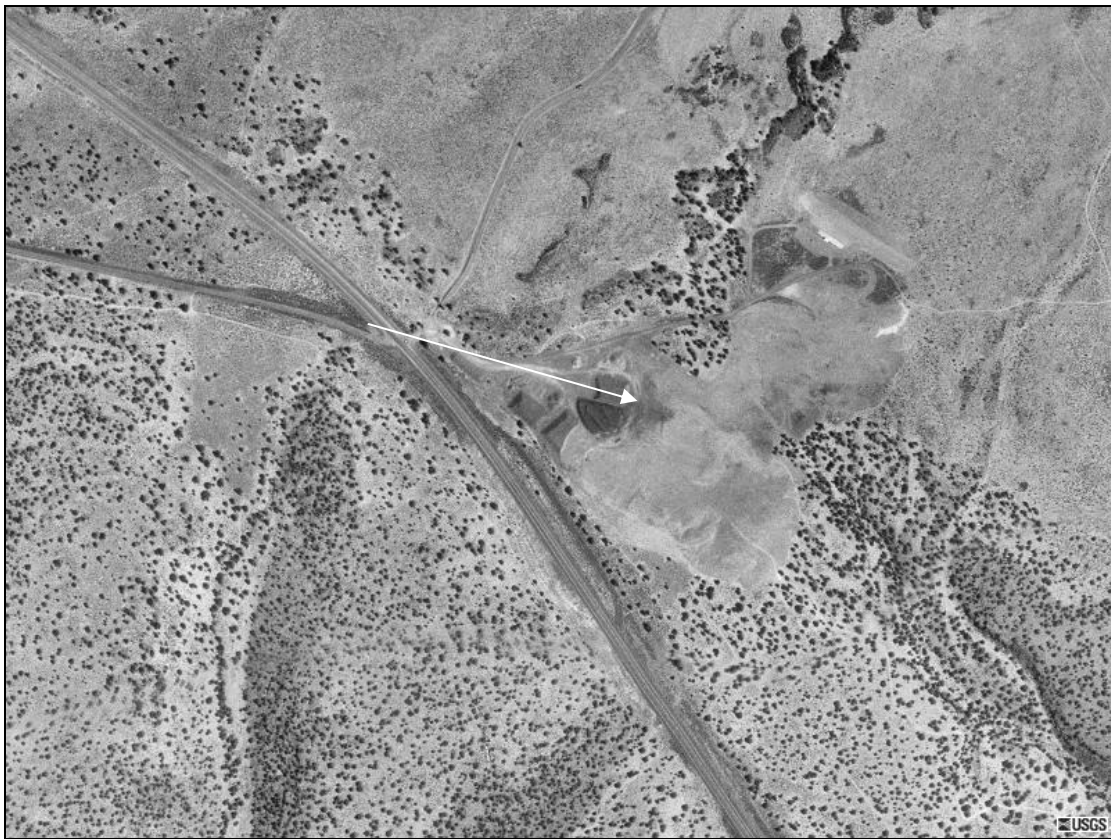
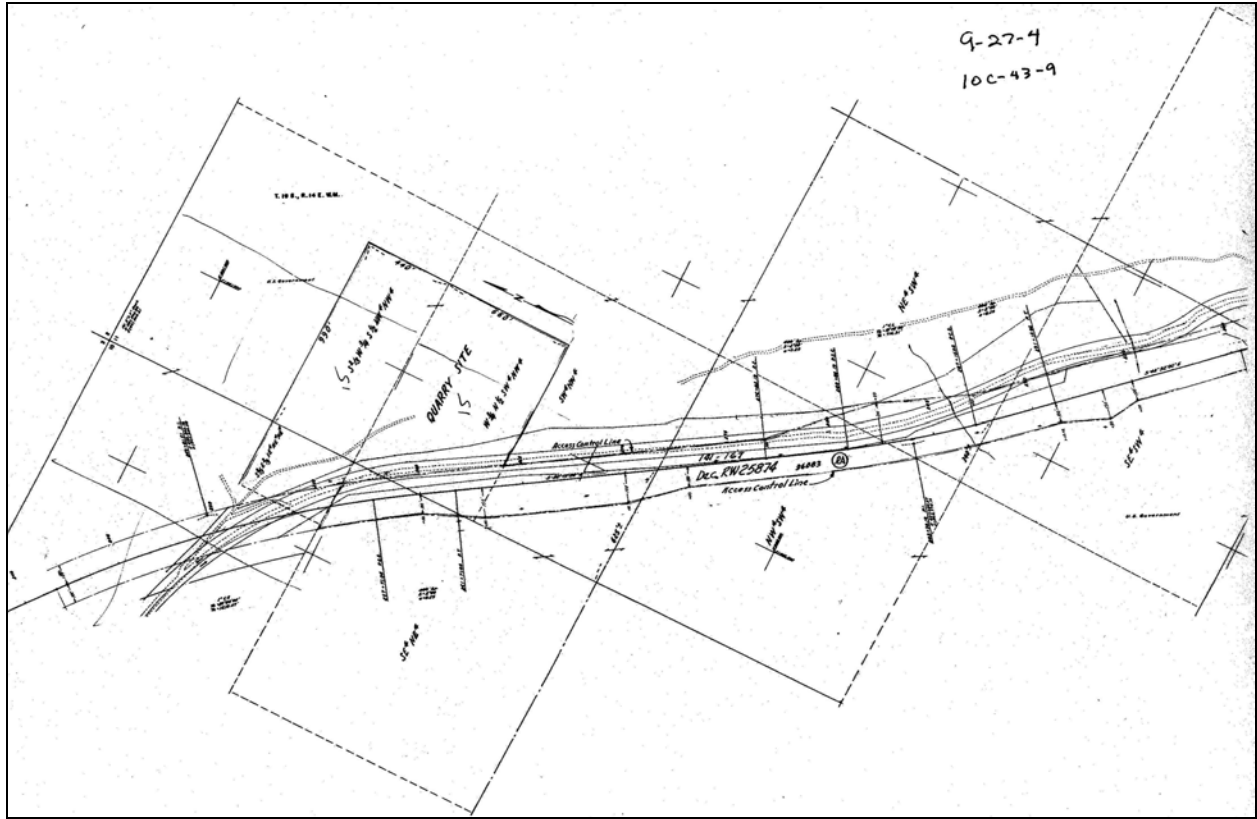
NW

E

SE

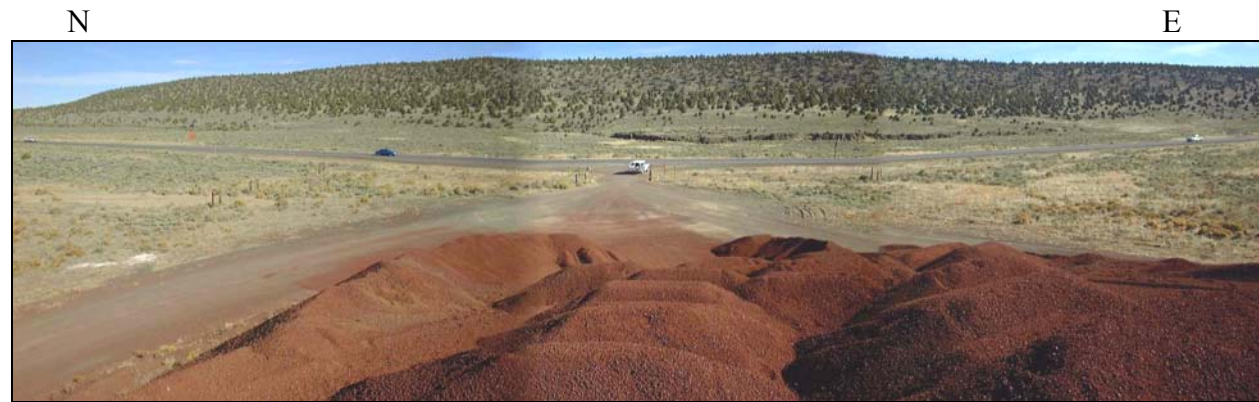


Panoramic view of the aggregate stockpile site adjacent to and east of Highway 20.



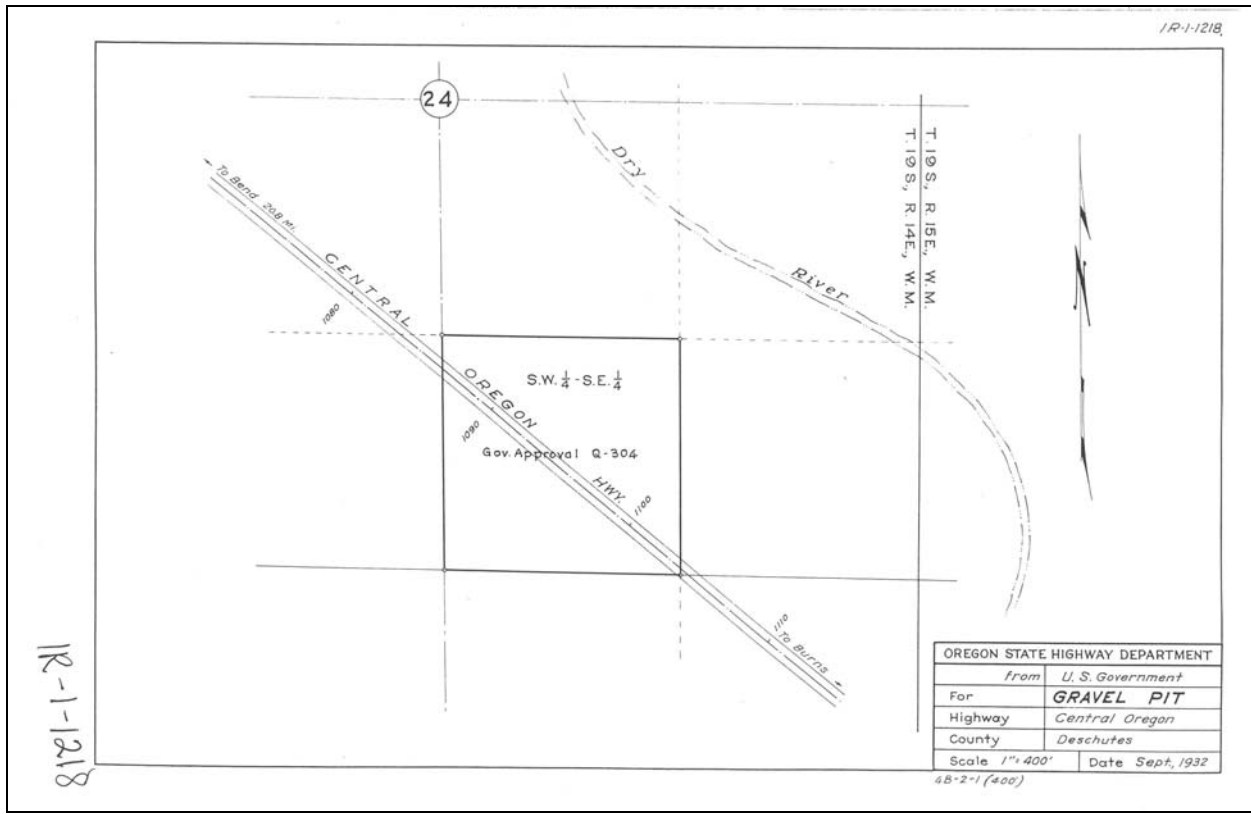
Aerial view of the stock pile site that is east of Highway 20.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0007	20.96	19S	14.0E	24
File ID		Source #	Date Visited		Map #			Type of Site		
0Q304		09-028-4	10/12/1999		1R-1-1218			Raw Land		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #				
43 54'14.00713"	120 59'35.71598"	1283.487	40	NA						
Comments										
GPS acquired at the entrance to the stock pile site.										
Rock Type	Unit	Color		Weathering			Jointing			
Basalt	Tob	Medium Dark Grey (N4)		Fresh to Slight			Moderately Fractured			
Quality				Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good to Fair				R3	120					
Potentially Significant Site	Why					Open/Closed	Direction			
No	Good size acreage, good rock, room to work, Highway 20 bisects property.					Closed	NA			
Adjacent Land Use										
Open space/One residence about 400 meters to the northeast										
Remarks										
This property is located on Highway 20 a couple of miles east of the Horse Ridge Natural Area. This site has limited exposures on the northern part of the property. The basalt is vesicular and looks to be of good to fair quality. There are no past disturbances to evaluate this property. The land on the south side of Highway 20 is used as a stock pile site for cinders. There is little to no overburden here. You would need to drill and blast the rock. There is room to work but no screening from the highway. This is flat ground with plenty of room to work. Highway 20 bisects the property. The quantity is based on a 10 foot lift for 20 acres. USA ground.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	2.22									
Material Use										
CTB, BORROW (1937)										



Looking to the northeast at the raw land across Highway 20 from the stockpile site.

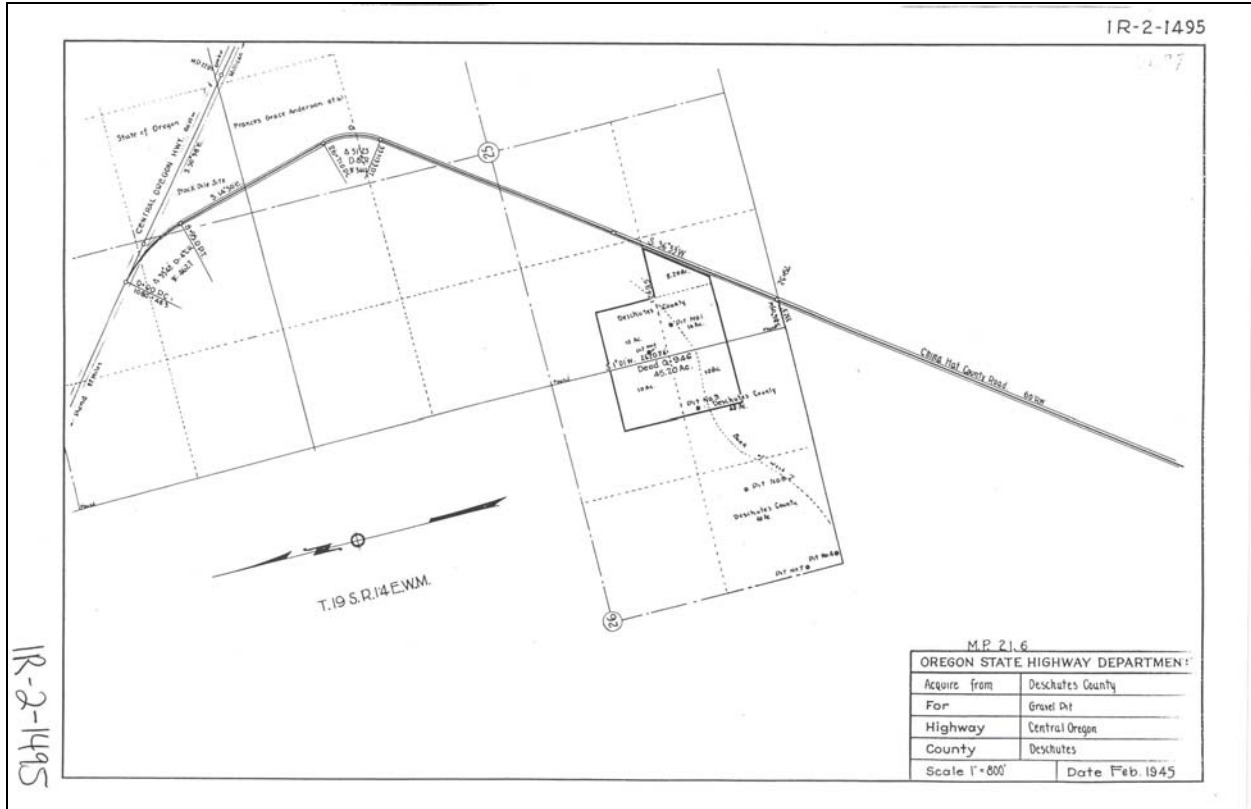
Close-up view of the vesicular basalt at this location.



County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0007	20.96	19S	14.0E	25
File ID		Source #	Date Visited	Map #		Type of Site				
11697		09-029-4	10/12/1999	1R-2-1495		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 53'30.03000"	121 00'11.88000"	1280	45.2	NA						
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type	Unit	Color		Weathering		Jointing				
Volcanic Gravel	Qs	NA		NA		NA				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Unknown			NA	120	200,000	324,000				
Potentially Significant Site	Why				Open/Closed		Direction			
No	Large acreage, room to work, aggregate quality undetermined.				Closed		NA			
Adjacent Land Use										
Open space										
Remarks										
This site is south of Highway 20 about 3/4 of a mile, just west of China Hat County Road. There are no exposures here at this site. The BLM is in the process of reclaiming the roads and have them blocked to the property. This site most likely would produce sand and pea gravel, like every other site along Highway 20. The terrain is flat with no screening from the county road and plenty of room to work. The quantity calculation is determined for 10 foot lifts on 40 acres of ground. This area has had past reclamation and I was not able to evaluate the property up close.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										



Looking southeast at the general area of the borrow pits along the county road.



Aerial view of the borrow site that is west of the county road.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0007	25.43	19S	15.0E	33
File ID		Source #	Date Visited	Map #		Type of Site				
04468		09-030-4	10/12/1999	1R-1-1226		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 52'55.672"	120 55'48.92778"	1303.394	13.7	<2						
Comments										
GPS acquired along Highway 20 and the pit.										
Rock Type	Unit	Color	Weathering			Jointing				
Volcanic Gravel	Qs	NA	NA			NA				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			NA	120	80,000	129,600				
Potentially Significant Site	Why			Open/Closed	Direction					
No	Too small			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
Highway 20 bisects this property east/west, and a BLM road bisects the northern portion of the property. The material at this site is composed of 40% sand, and 60% gravel. The gravel is subangular to subrounded clasts, with the largest size less than 5 centimeters and the dominant size around 1 centimeter. Unknown depth to any basalt flows. The ground is flat, with no screening and some room to work.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	2.51	15.7								
Material Use										
CTB, BORROW (1937)										

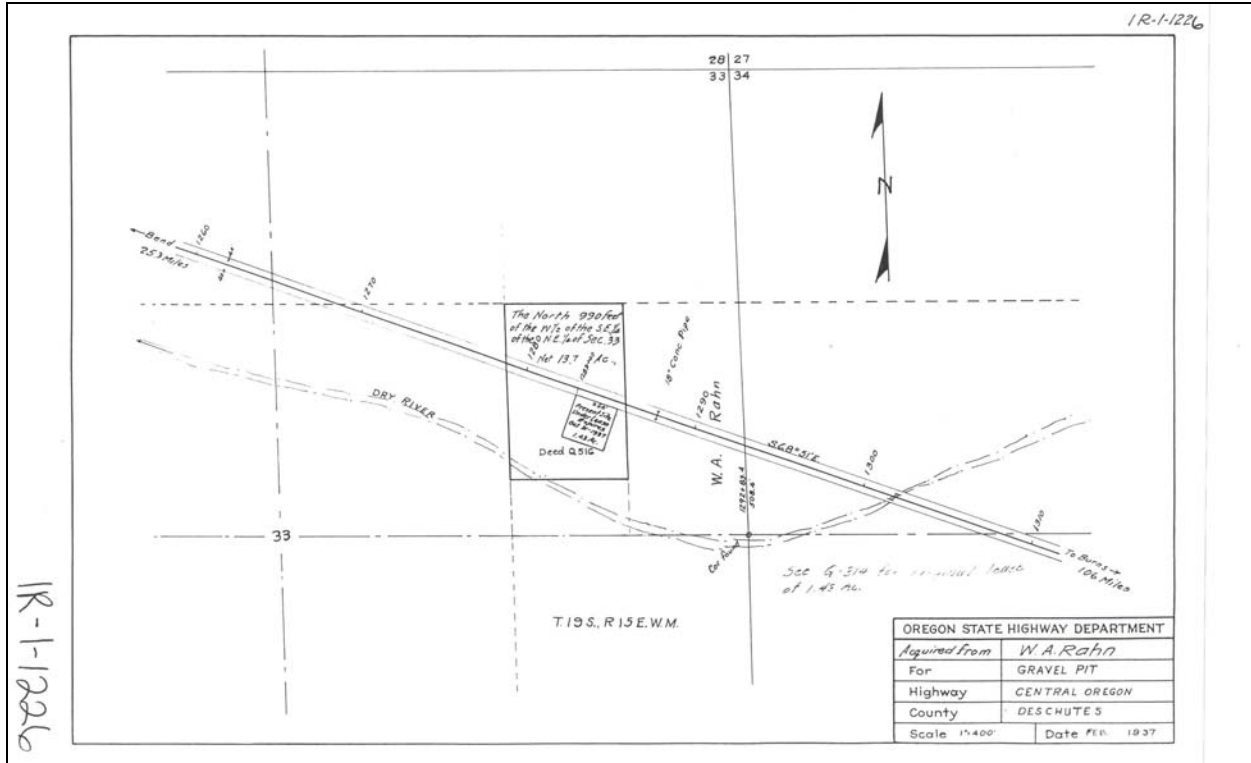
SW

NW



Looking to the west at the borrow site along Highway 20.

Close-up view of the volcanic material at this location.



Aerial view of the borrow site located on the south side of the highway.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0007	42	21S	18.0E	04
File ID		Source #	Date Visited	Map #			Type of Site			
16561		09-031-4	10/14/1999	1R-5-27			Raw Land			
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 46'30.23219"	120 34'20.87809"	1457.274	40	NA						
Comments										
GPS acquired on the property.										
Rock Type	Unit	Color		Weathering			Jointing			
Rhyolite	Tvs	Light Grey (N7)		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Poor			R2	120	200,000	324,000				
Potentially Significant Site	Why					Open/Closed	Direction			
No	Owned by USA					Closed	NA			
Adjacent Land Use										
Open space										
Remarks										
This site is about one mile south of Highway 20. There are no rock exposures, just rhyolite float mixed in with the soils. The terrain is moderately steep, with room to work and partial screening. The ground is leased from the USA and the State Land Board. Latitude and Longitude for the access road is 43° 47' 44.65551 and 120° 32' 16.76960.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	2.50	28.1								
Material Use										
Oil Rock (1950)										

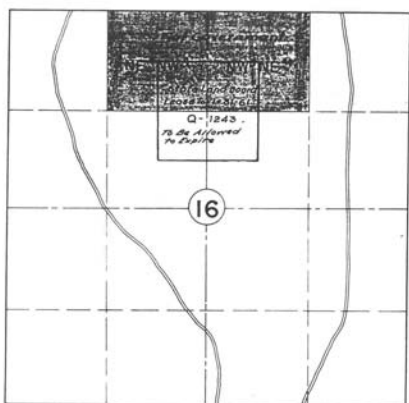
W




Looking to the west at the raw land site that is south of Highway 20.

1R-5-27

T. 19 S., R. 15 E. W. M.



T. 21 S., R. 18 E. W. M.



Certificate

I hereby certify that the ~~NE 1/4 NW 1/4 and NW 1/4 NE 1/4 of Sec. 16, T. 19 S., R. 15 E. W. M. and the SW 1/4 SW 1/4 of Sec. 4, T. 21 S., R. 18 E. W. M.~~ are, as of this date unappropriated and unreserved Federal land.

Signed at Portland, Oregon this ___ day of _____, 1950

Manager

OREGON STATE HIGHWAY DEPARTMENT	
To be acquired from U. S. A.	
For	Quarry Sites
Highway	Central Oregon
County	Deschutes
Scale 1"=1000'	Date Aug. 1, 1950

Rev. 12 '50

1R-5-27



Aerial view of the raw land site, Highway 20 is in the upper right corner of the image.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0007	27.15	19S	15.0E	35
File ID		Source #	Date Visited	Map #		Type of Site				
06234, 06235, 22707		09-032-4	10/13/1999	1R-2-666		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 52'31.28035"	120 53'47.30606"	1305.264	33.28	<26						
Comments										
GPS acquired at the access road and Highway 20.										
Rock Type	Unit	Color	Weathering			Jointing				
Volcanic Gravel	Qs	NA	NA			NA				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			NA	120	20,000	32,400				
Potentially Significant Site	Why			Open/Closed	Direction					
No	Borrow site			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This property is adjacent to Highway 20. The material at this site is composed of angular to subrounded clasts that are 40% sand/silt and 60% gravel with the dominant size gravel around 5 cm. This is flat terrain with ample room to work, but no screening from the highway. The area is not fenced and there is no gate. The ground is being used now for a motto cross area.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
		29.38			18.22	1.4				
Material Use										
CLASS B, AC (1971)										

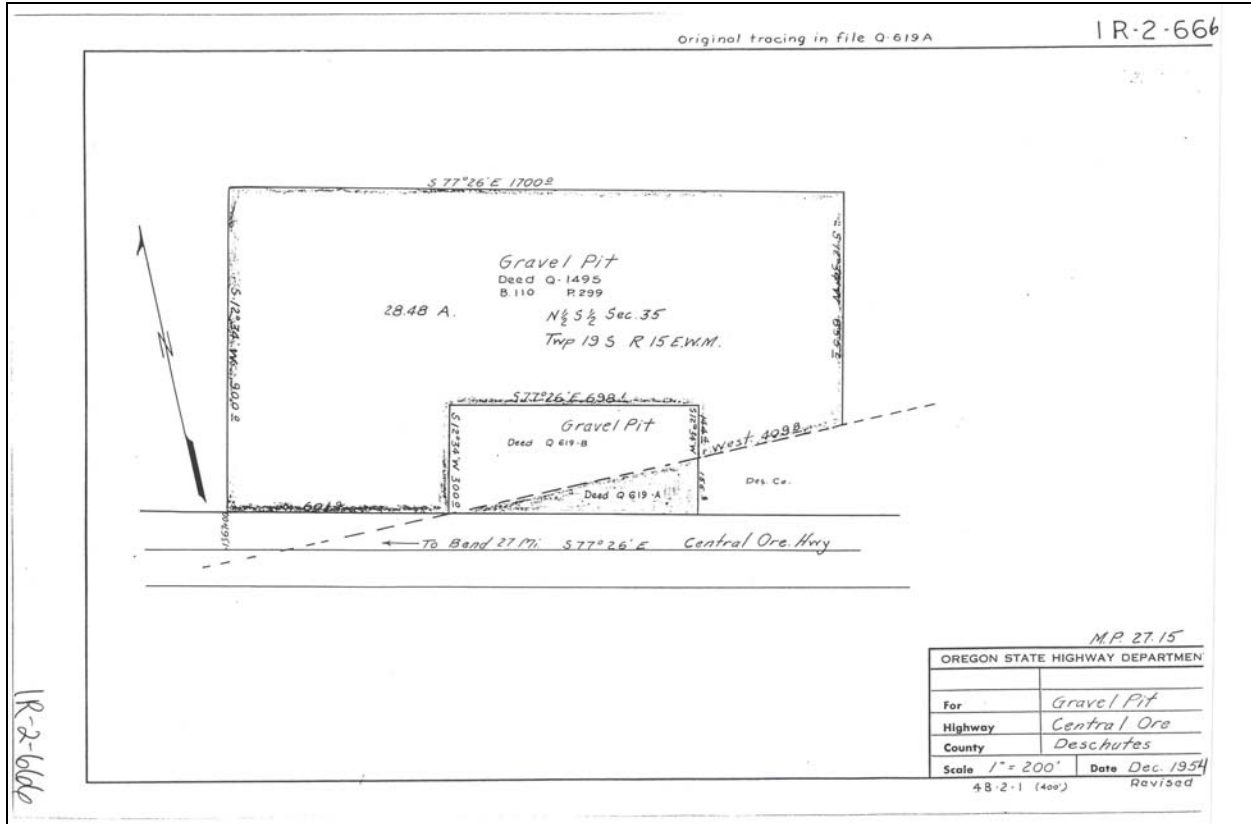
S

N



Looking west at the borrow site along Highway 20.

Close-up view of the volcanic gravel at this location.

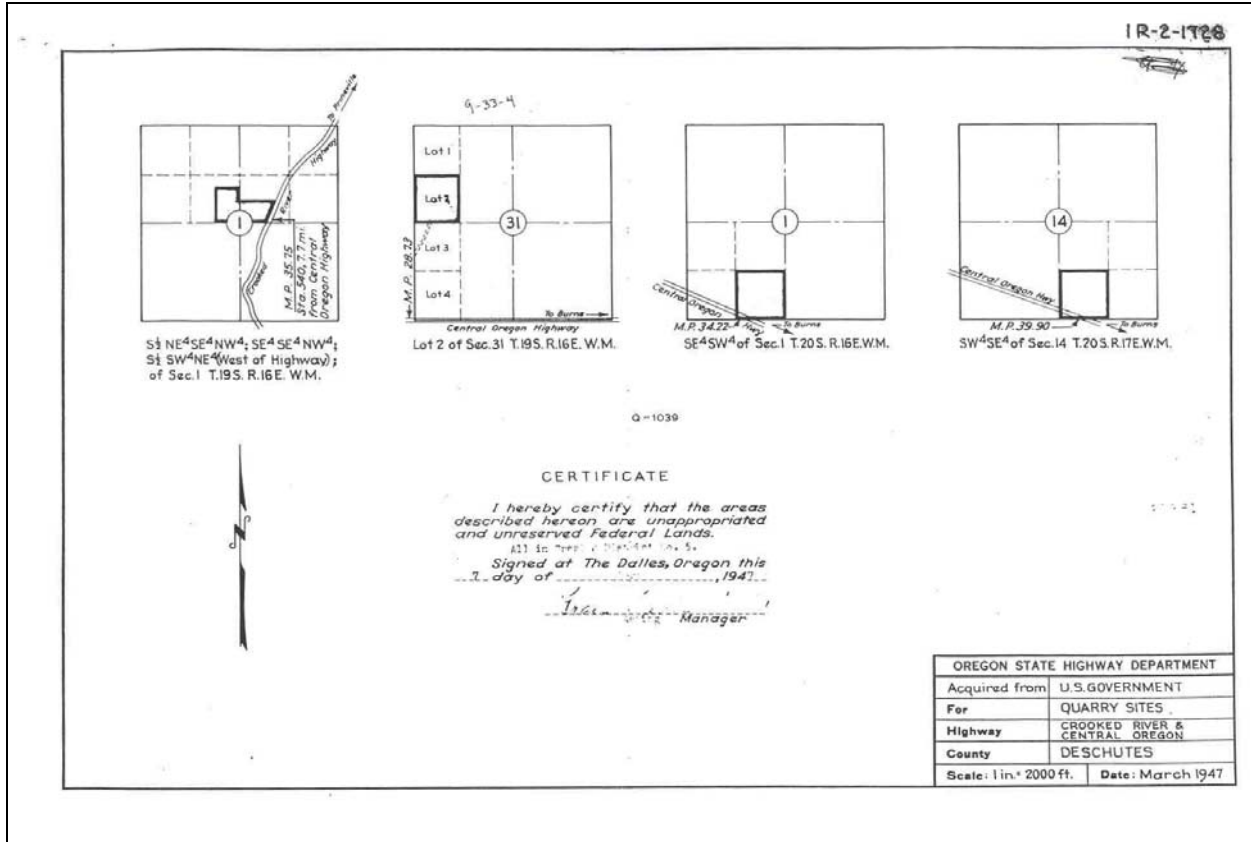


Aerial view of the borrow site along the highway.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes				10	0007	28.73	19S	16.0E	31
File ID		Source #	Date Visited	Map #			Type of Site		
13577		09-033-4	10/12/1999	1R-2-1728			Raw Land		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 52'18.03035"	120 52'4.11324"	1320.167	40	NA					
Comments									
GPS acquired at BLM road and Highway 20.									
Rock Type	Unit	Color		Weathering			Jointing		
Basalt	Tob	Medium Grey (N5)		Slight to Fresh			Moderately Fractured		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good to Fair			R3 to R4	178	500,000	1,201,500			
Potentially Significant Site	Why				Open/Closed	Direction			
No	Large acreage, room to work, close to Highway 20. USA ground.				Closed	NA			
Adjacent Land Use									
Open space									
Remarks									
This site is north of Highway 20 about 700 meters. It is raw land with no visible disturbance. The rock is a medium-grain porphyritic basaltic andesite, with some platy fractures. This flow forms a cap rock that appears to be about 10 feet thick. The overburden could be up to 8 feet thick at the base of the hill. There is no screening from the highway and there is ample room to work here. You would need to drill and blast and the development should be from the top down. There is a moderate supply of clean wind deposited sand at the base of the hill (5,000 cubic yards). USA ground.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.82	22.7							
Material Use									
Surfacing Top (1947)									



Looking north at the raw land site up on the hill.



Aerial view of the ground north of Highway 20.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0007	30.81	20S	16.0E	04
File ID		Source #	Date Visited	Map #		Type of Site				
Q0339		09-034-4	10/12/1999	1R-1-1224		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 52'17.32159"	120 49'20.07667"	1313.086	3.44	<1						
Comments										
GPS acquired along the north side of Highway 20.										
Rock Type	Unit	Color		Weathering			Jointing			
Volcanic Gravel	Qs	NA		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			NA	120	20,000	32,400				
Potentially Significant Site	Why			Open/Closed	Direction					
No	Too small.			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
The aggregate is composed of subangular to subrounded gravel. This material at the site is composed of 60% sand and 40% gravel. The dominant size gravel is around 1 centimeter and the largest is 5 centimeters. The terrain is flat. There is no screening from this property which is adjacent to Highway 20.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

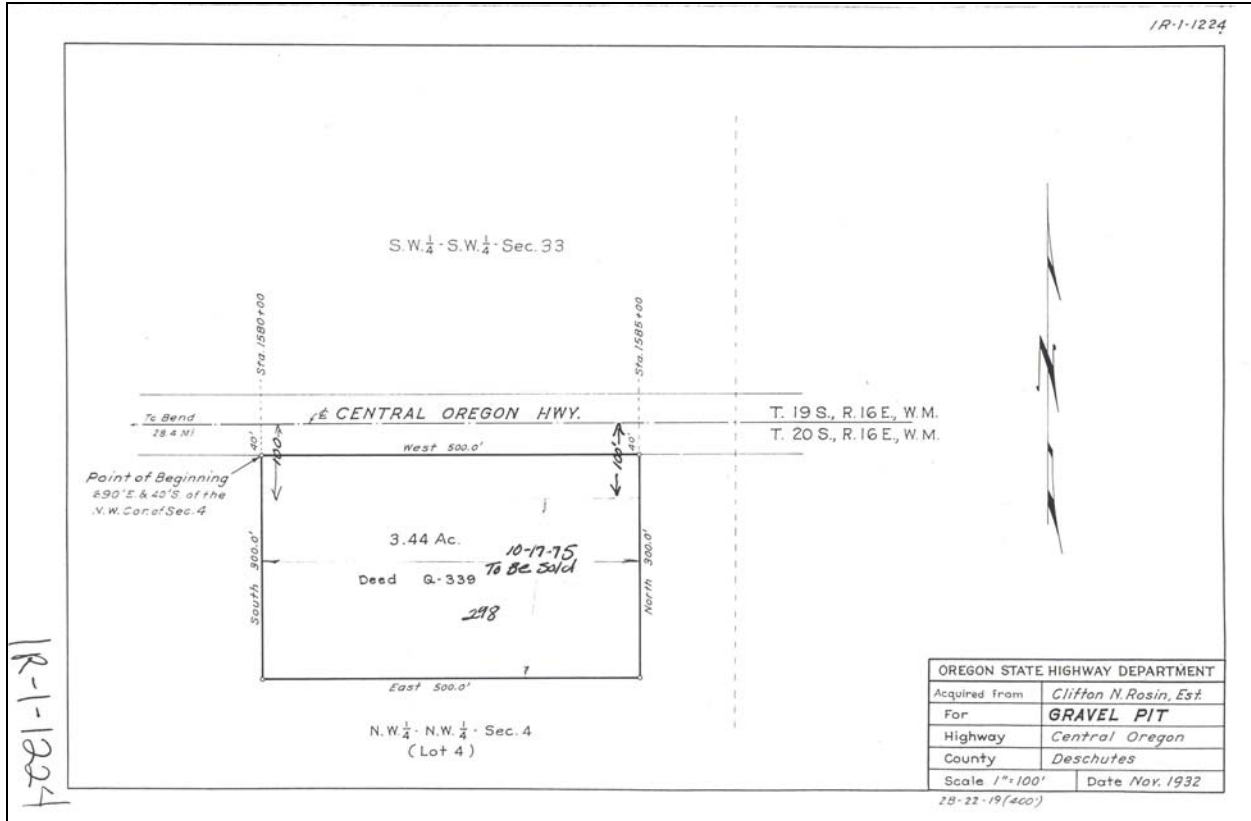
S

W



Looking to the southwest at the borrow site along Highway 20.

Close-up view of the volcanic gravel in this location.

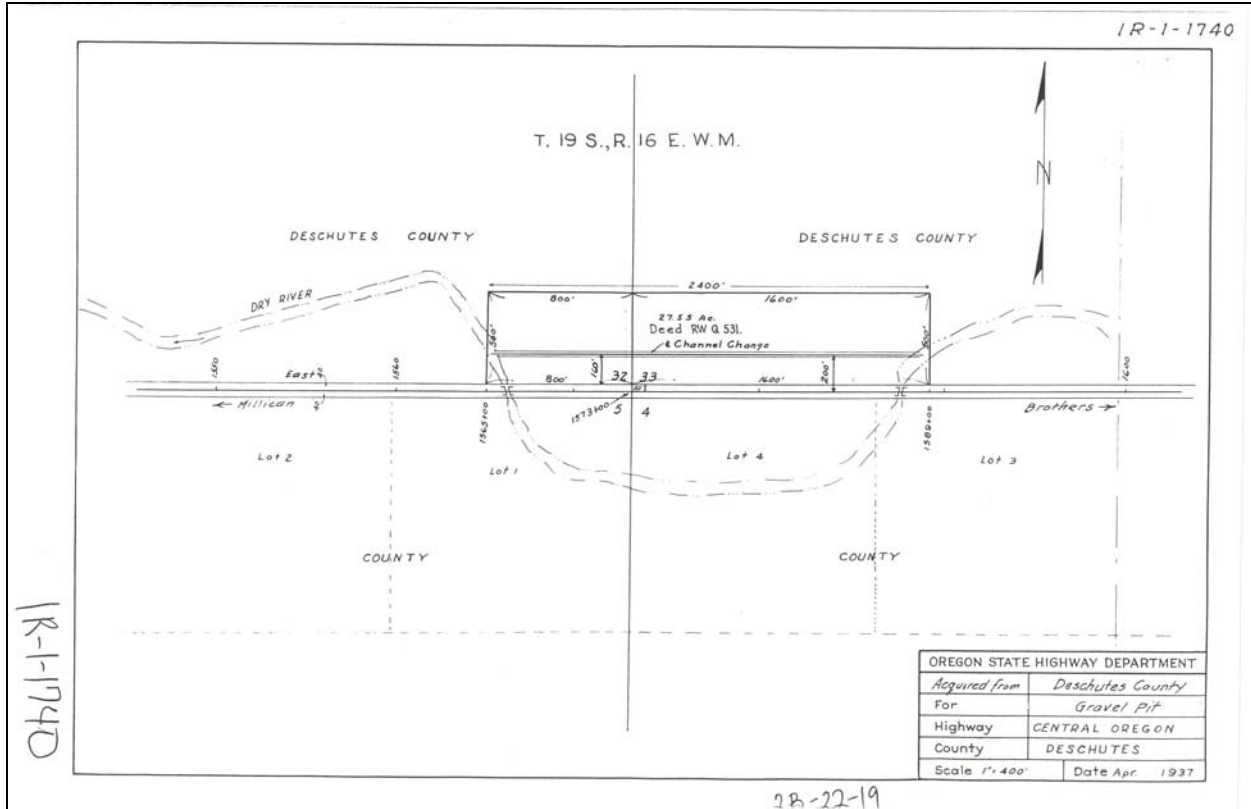


Aerial view of the borrow site in relation to the surrounding ground.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes				10	0007	30.81	19S	16.0E	32
File ID		Source #	Date Visited	Map #			Type of Site		
04696		09-035-4	10/12/1999	1R-1-1740			Raw Land		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 52'17.32159"	120 49'20.07667"	1313.086	27.55	NA					
Comments									
GPS acquired along the north side of Highway 20.									
Rock Type	Unit	Color	Weathering			Jointing			
Volcanic Gravel	Qs	NA	NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good			NA	120	300,000	486,000			
Potentially Significant Site	Why			Open/Closed	Direction				
No	Quality, quantity, acreage along Highway 20.			Closed	NA				
Adjacent Land Use									
Open space									
Remarks									
This is raw land with no prior disturbance adjacent to Highway 20. The aggregate is composed of subangular to subrounded gravel. The material at this site has 60% sand and 40% gravel. The dominant size being around 1 centimeter and the largest 5 centimeters. The terrain is flat, with room to work, but no screening. There is a dry river channel that bisects the property.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
Material Use									



Looking to the north across Highway 20 at the raw land site.



Aerial view of the raw land adjacent to and north of Highway 20.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes				10	0007	32.46	20S	16.0E	03
File ID		Source #	Date Visited	Map #			Type of Site		
08551, 08550, 04470		09-036-4	10/12/1999	1R-1-1688			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #				
43 52'04.93365"	120 47'44.60616"	1312.023	60	<2					
Comments									
GPS acquired at BLM road and Highway 20.									
Rock Type	Unit	Color	Weathering			Jointing			
Volcanic Gravel	Qs	NA	NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good			NA	120	800,000	1,296,000			
Potentially Significant Site	Why			Open/Closed	Direction				
No	Borrow site in an area of many borrow sites.			Closed	NA				
Adjacent Land Use									
Open space									
Remarks									
This site is on both sides of Highway 20. The material is composed of subangular to subrounded gravel. This site has 60% sand and 40% gravel with the dominant size being around 1 centimeter and the largest 5 centimeters. There is some screening from the highway and ample room to work. There is some relief here and the calculations are based on 25 acres of disturbance and a 20 foot deep pit. Approximately 12,000 cubic yards have been removed to date.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
					47.3	14.1			
Material Use									
PIT GRAVEL (1979)									

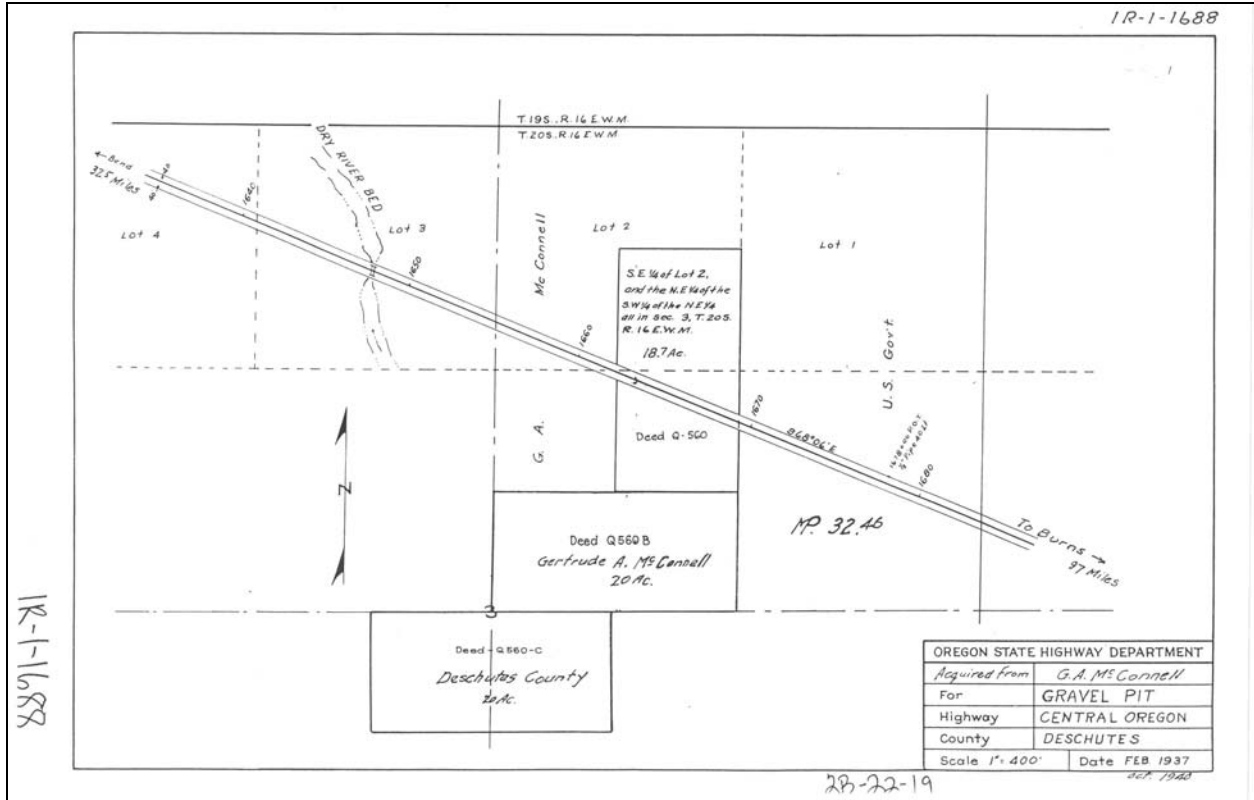
E

SW



Looking to the southeast at the borrow site south of Highway 20.

Close-up view of the volcanic gravel with the hammer for scale.



Aerial view of the site in relation to the highway.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes				10	0007	33.6	20S	16.0E	02
File ID		Source #	Date Visited	Map #			Type of Site		
04469		09-037-4	10/12/1999	1R-1-1687			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #				
43 51'12.97956"	120 45'32.20373"	1330.6	27.5	<2					
Comments									
GPS acquired at site 09-039-4.									
Rock Type	Unit	Color	Weathering			Jointing			
Volcanic Gravel	Qs	NA	NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good			NA	120	190,000	307,800			
Potentially Significant Site	Why			Open/Closed	Direction				
No	Borrow site in an area of many borrow sites.			Closed	NA				
Adjacent Land Use									
Open space									
Remarks									
This site is located adjacent to Highway 20. The material is composed of subangular to subrounded gravel. This site has 20% sand and 80% gravel with the dominant size being around 1 centimeter and the largest 5 centimeters. There is no screening from the highway and ample room to work here. The terrain is flat. This site and sites 09-039-4 and 09-040-4 are near each other. I calculated the quantity on 15 acres of disturbance with a 10 foot lift. This area has 3 different source numbers, that were acquired over a period of time.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.53	29.0			24.63	1.4			
Material Use									
CTB, BORROW (1962)									



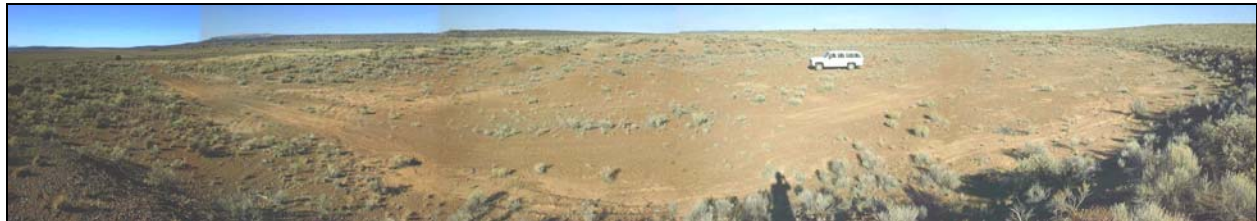
Looking to the west at the borrow site along (arrow) Highway 20.

Close-up of the volcanic gravel at this location.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes				10	0007	34.1	20S	16.0E	12
File ID		Source #	Date Visited	Map #			Type of Site		
Q0566, Q0891		09-039-4	10/12/1999	1R-2-512			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 51'12.97956"	120 45'32.20373"	1330.6	53.61	<1					
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color		Weathering			Jointing		
Volcanic Gravel	Qs	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good			NA	120	480,000	777,600			
Potentially Significant Site	Why			Open/Closed	Direction				
No	Borrow site in an area of many borrow sites.			Closed	NA				
Adjacent Land Use									
Open space									
Remarks									
This site is located adjacent to Highway 20. The material is composed of subangular to subrounded gravel. This site has 20% sand and 80% gravel with the dominant size gravel being around 1 centimeter and the largest 5 centimeters. There is some screening from the highway and ample room to work here. The terrain is fairly flat. This site and sites 09-037-4 and 09-040-4 are near each other. There is a dry draw that is part of this site that has good to fair basalt flows exposed. This is the same rock that you find across the highway at site 09-040-4. This area has 3 different source numbers, that were acquired over a period of time. The latitude, longitude for the access road is: 43° 51' 25.29247, 120 45° 37' 9.2231 elevation is 1323.911 meters.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.53	29.0			24.63	1.4			
Material Use									
CTB, BORROW, Surfacing (1962)									

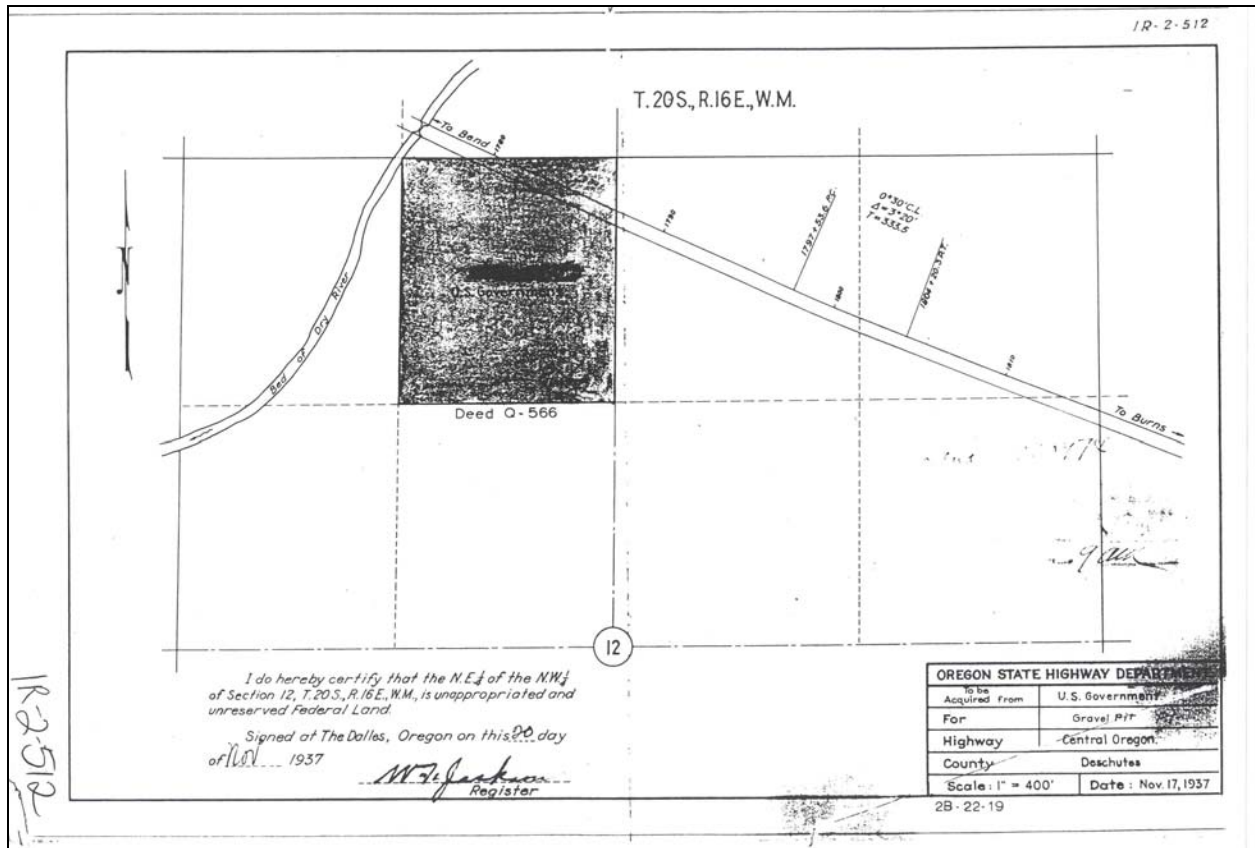
W

NE



Looking northwest at the prior disturbance along Highway 20.

Close-up view of the volcanic gravel (pea) with the hammer for scale.



Aerial view of the borrow site in relation to the highway and the surrounding area.

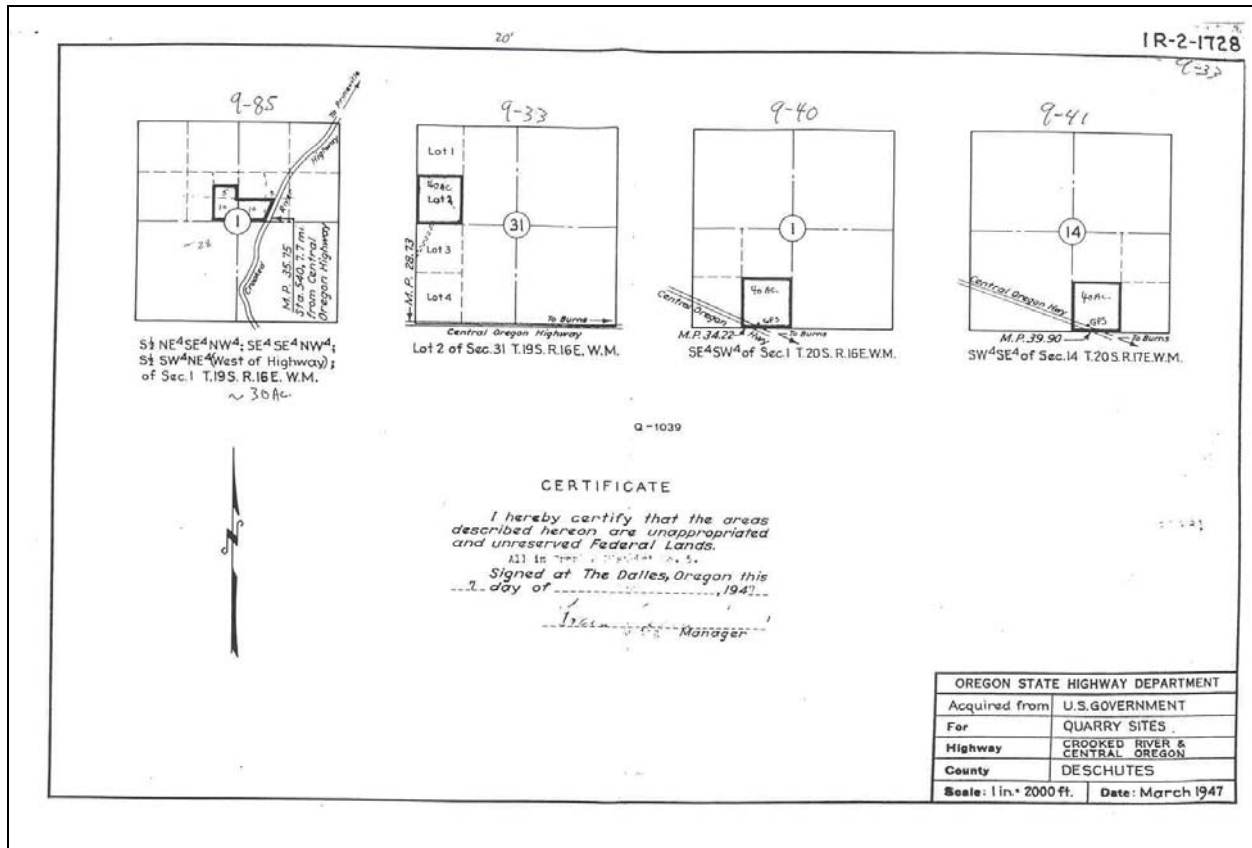
County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes				10	0007	34.22	20S	16.0E	01
File ID		Source #	Date Visited	Map #		Type of Site			
13577		09-040-4	10/14/1999	1R-2-1728		Quarry			
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #				
43 51'24.31274"	120 45'31.97522"	1323.412	40	<1					
Comments									
GPS acquired at access road and Highway 20.									
Rock Type	Unit	Color		Weathering		Jointing			
Basalt	QTb	Medium Grey (N5)		Fresh		Moderate to Massive Fracture			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Fair			R3	160	968,000	2,090,880			
Potentially Significant Site	Why			Open/Closed	Direction				
No	Borrow site in an area of many borrow sites.			Closed	NA				
Adjacent Land Use									
Open space									
Remarks									
This site is located on the north side of Highway 20. The rock here is a medium to fine-grain vesicular basalt. It is very blocky, with some columnar jointing and minor platy fracture. There is good screening from the highway with some room to work. You would need to drill and blast the rock. There is no overburden. There were some exposed core holes I filled in while I was there. This area is unique with the exposed basalt flows adjacent to the highway. This site has not met AC specifications in the past. Past production is approximately 14,000 cubic yards. This site is one of the few sites in this area that is a genuine quarry. USA ground.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
2.66	2.61	28.6	1.5	0.5			17.8	0.2	
Material Use									
AC (1991)									



Looking northwest at the quarry pit and the surrounding terrain.



Close-up of the massive fracture pattern in the basalt at this location.



Aerial view of the pit in relation to the highway and the surrounding terrain.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0007	39.9	20S	17.0E	14
File ID		Source #	Date Visited	Map #		Type of Site				
13577		09-041-4	10/13/1999	1R-2-1728		Raw Land				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 49'40.18911"	120 39'14.97618"	1366.731	40	NA						
Comments										
GPS acquired along the north side of Highway 20.										
Rock Type	Unit	Color		Weathering		Jointing				
Basalt	QTb	Medium Dark Grey (N4)		Fresh to Slight		Undetermined				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good to Fair			R3	156	200,000	421,200				
Potentially Significant Site	Why				Open/Closed		Direction			
No	Large acreage, adjacent to Highway 20, room to work. USA ground.				Closed		NA			
Adjacent Land Use										
Open space										
Remarks										
This site is along Highway 20 as you leave Millican Valley going east. There is no prior disturbance at this site. There is a small exposure along Highway 20. The rock is a medium-grain vesicular basalt/basaltic andesite. There could be up to 5 feet of overburden here. There is plenty of room to work, with no screening from the highway. There is low relief with some Juniper trees here. You would most likely need to drill and blast at this location. The quantity calculations are based on a 15 acre disturbance and a pit depth of about 10 feet. USA ground.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	2.88	27.2								
Material Use										
Surfacing (1947)										

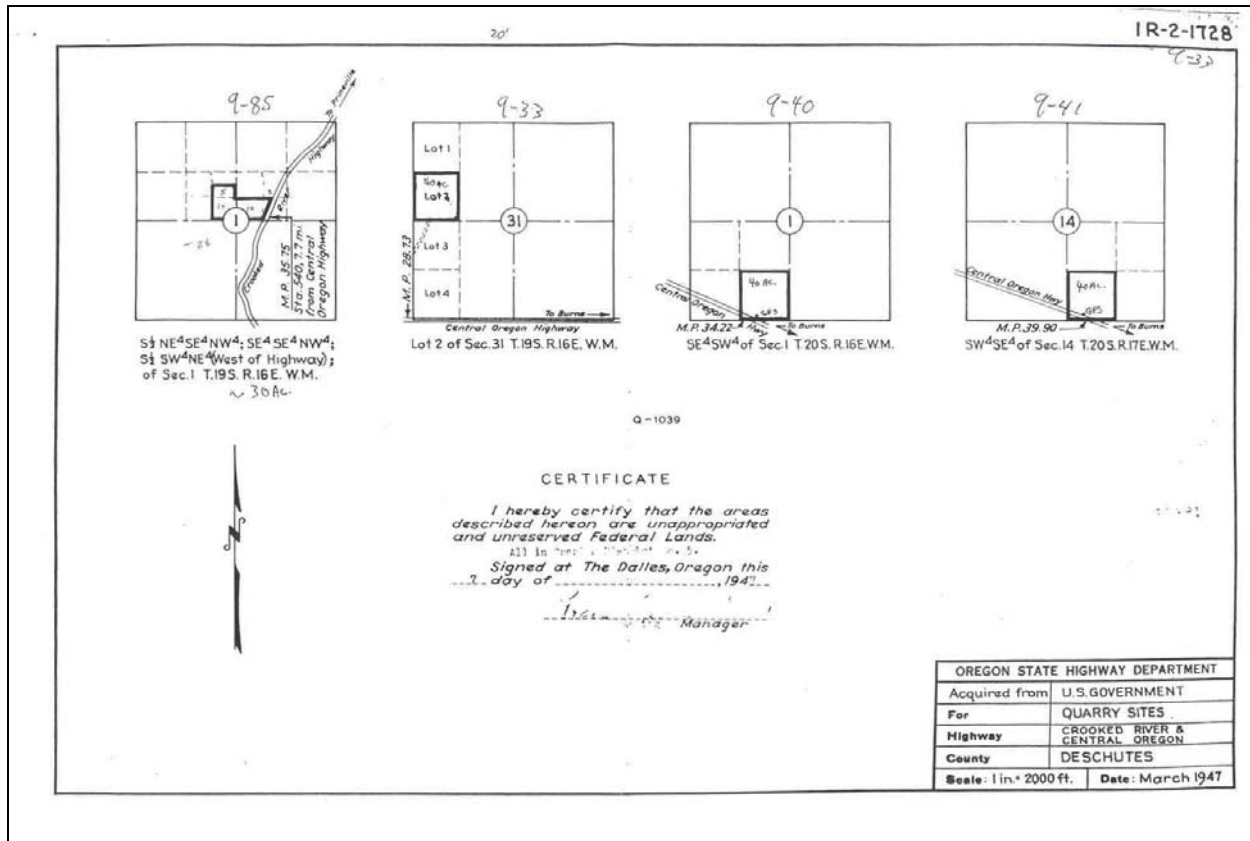
NW

NE



Looking to the north across Highway 20 at the undisturbed site.

Close-up view of the vesicular basalt at this location.



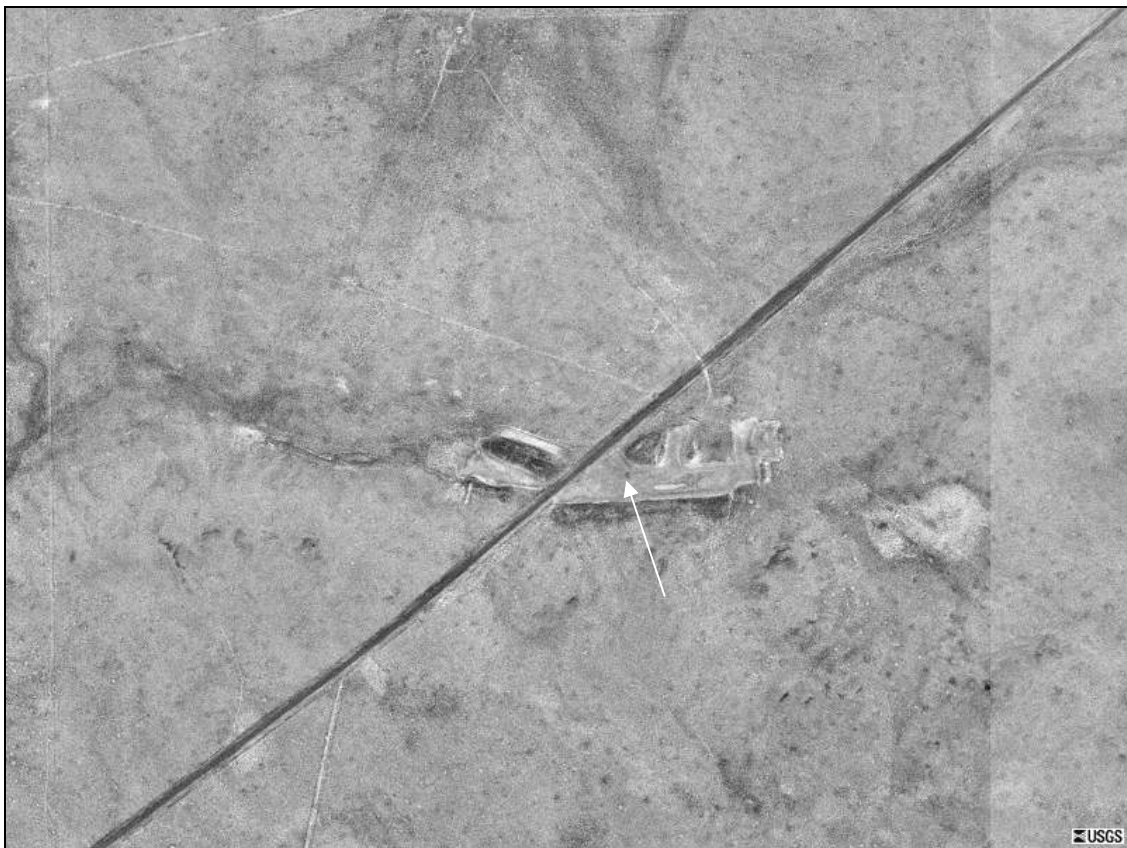
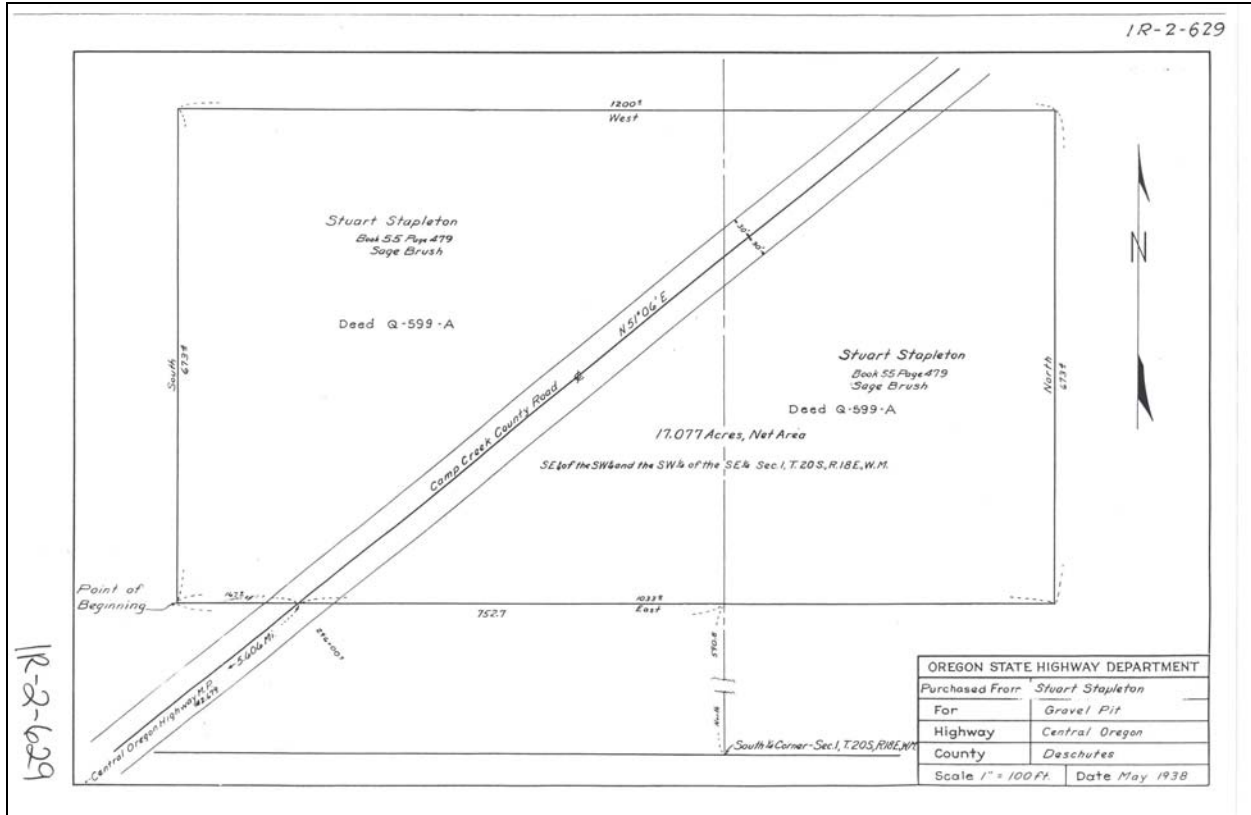
Aerial view of the site in relation to the highway and the surrounding area.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes	Wilson Pit			10	0007	42.7	20S	18.0E	01
File ID		Source #	Date Visited	Map #			Type of Site		
06146		09-043-4	10/13/1999	1R-2-629			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 51'36.78143"	120 30'35.64928"	1389.136	17.08	<2					
Comments									
GPS acquired along Camp Creek County Road.									
Rock Type	Unit	Color		Weathering			Jointing		
Volcanic Gravel	Qb	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Fair			NA	120	200,000	324,000			
Potentially Significant Site	Why				Open/Closed		Direction		
No	Very limited supply of aggregate, small acreage for this area.				Closed		NA		
Adjacent Land Use									
Open space									
Remarks									
This site is north of Brothers off of Highway 20 on Camp Creek Road. The material at this site is composed of 90% clays, silt, and minor sand, with 10% gravel of variable sizes. The terrain is fairly flat with no screening and room to work. This disturbance is used as a stock pond for livestock in the area. This site holds water and had some at the bottom of the pit when I visited it in October. The local ranchers use this site as a watering hole for their animals.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
Material Use									
CTB, BORROW									



Looking to the northwest at the borrow site along Camp Creek County Road. Water is located in the pit upper right corner of the image.

Close-up view of the volcanic material at this location.

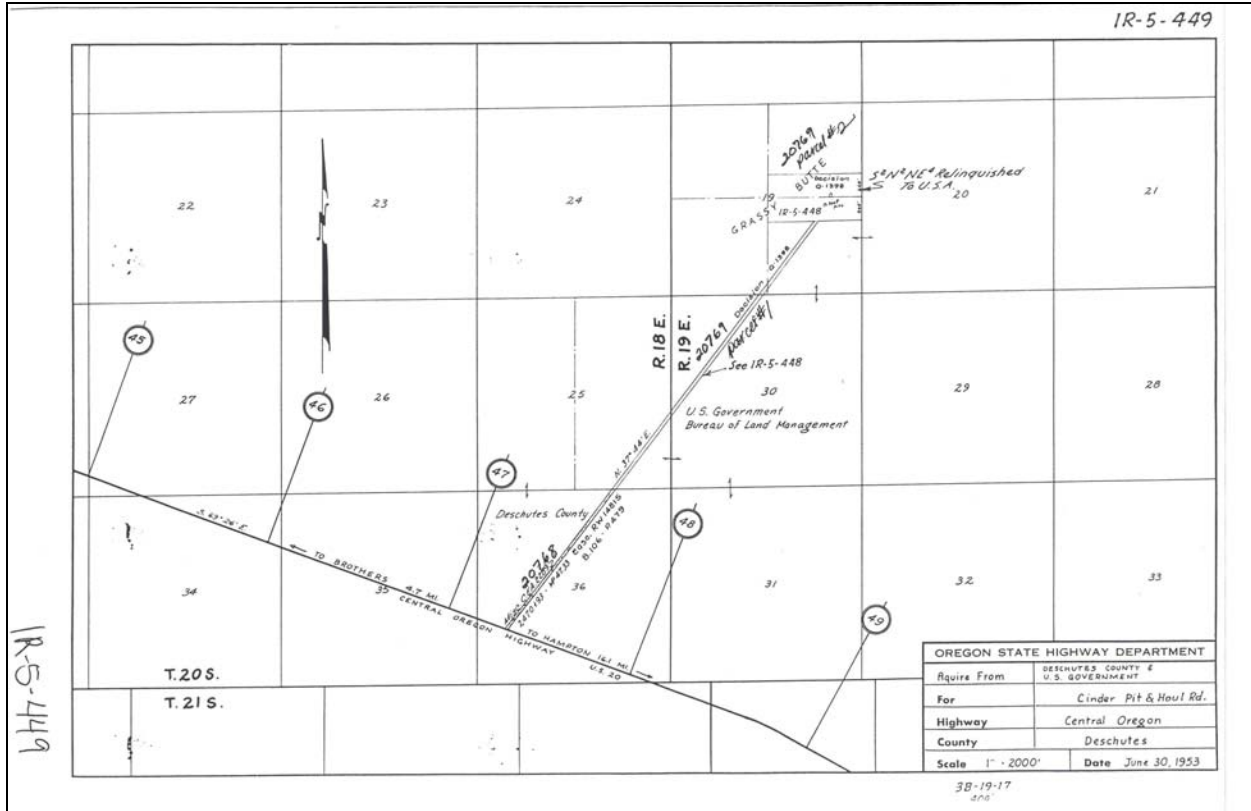


Aerial view of the borrow site along the county road.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes	Grassy Butte			10	0007	47.3	20S	19.0E	19
File ID		Source #	Date Visited	Map #			Type of Site		
20768, 20769		09-044-4	10/14/1999	1R-5-448, 1R-5-449			Cinder Pit		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #				
43 49'12.83396"	120 28'58.93565"	1472.736	85	<4	09-0144				
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color	Weathering			Jointing			
Cinder	QTp	NA	NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good to Fair			NA	120	1,250,000	2,025,000			
Potentially Significant Site	Why					Open/Closed	Direction		
Yes	Large acreage, plenty of sanding material with some basalt rock for a future supply.					Closed	NA		
Adjacent Land Use									
Open Space									
Remarks									
This is a good scoriaceous basalt 2.5 miles north of Highway 20. You can rip and crush the material here with little waste. There is good screening with ample room to work. The northern bench at this site is too tall (60 ft.) and should be decreased to a safer size. There is a 20 foot thick very tabular lava flow at the base of the cinder cone. This could be used as an aggregate resource sometime in the future. There has been approximately 200,000 cubic yards of material removed to date. The quantity calculation is based on the volume of a cone, with the parameters of a base length of 1250 feet and a height of 100 feet. The latitude and longitude for the access road is 43° 47' 23.41040, 120° 30' 57.25688, 1437.924.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.94	42.7							
Material Use									
SAND AG (1953)									



Looking to the north at the bench cut in the cinder pit.



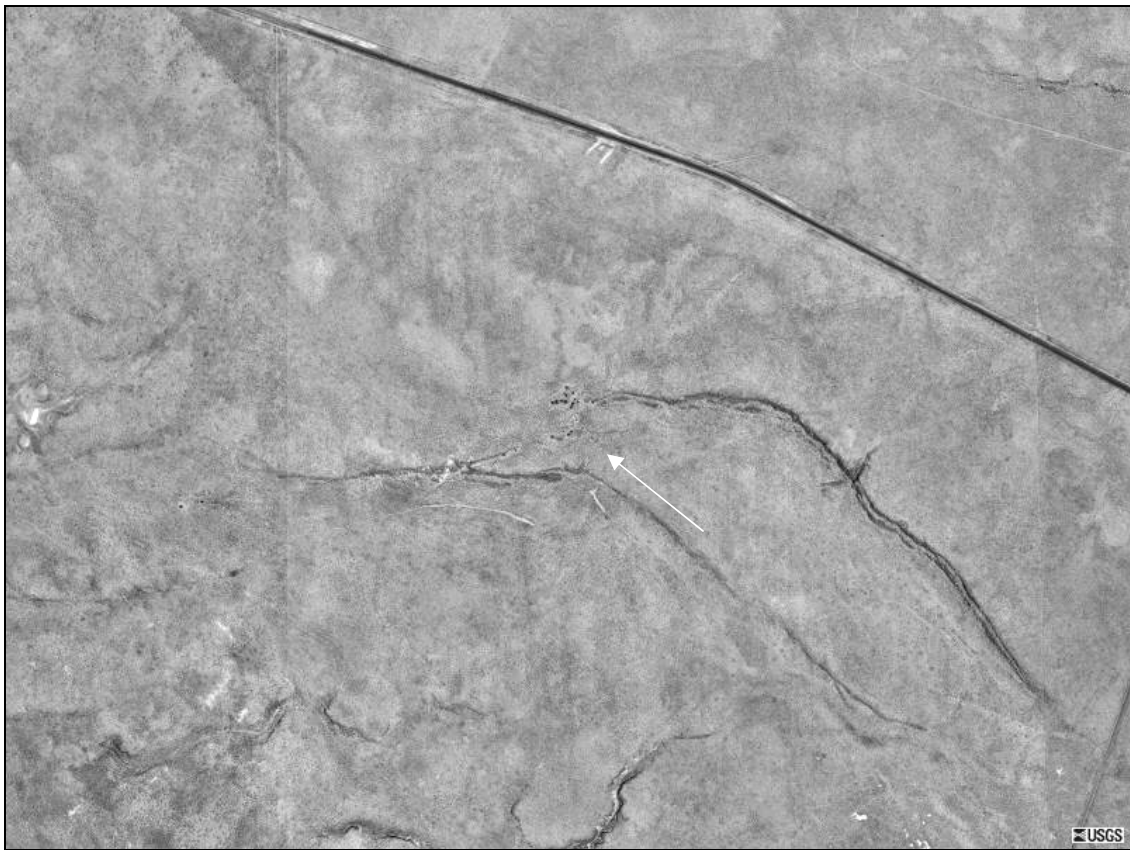
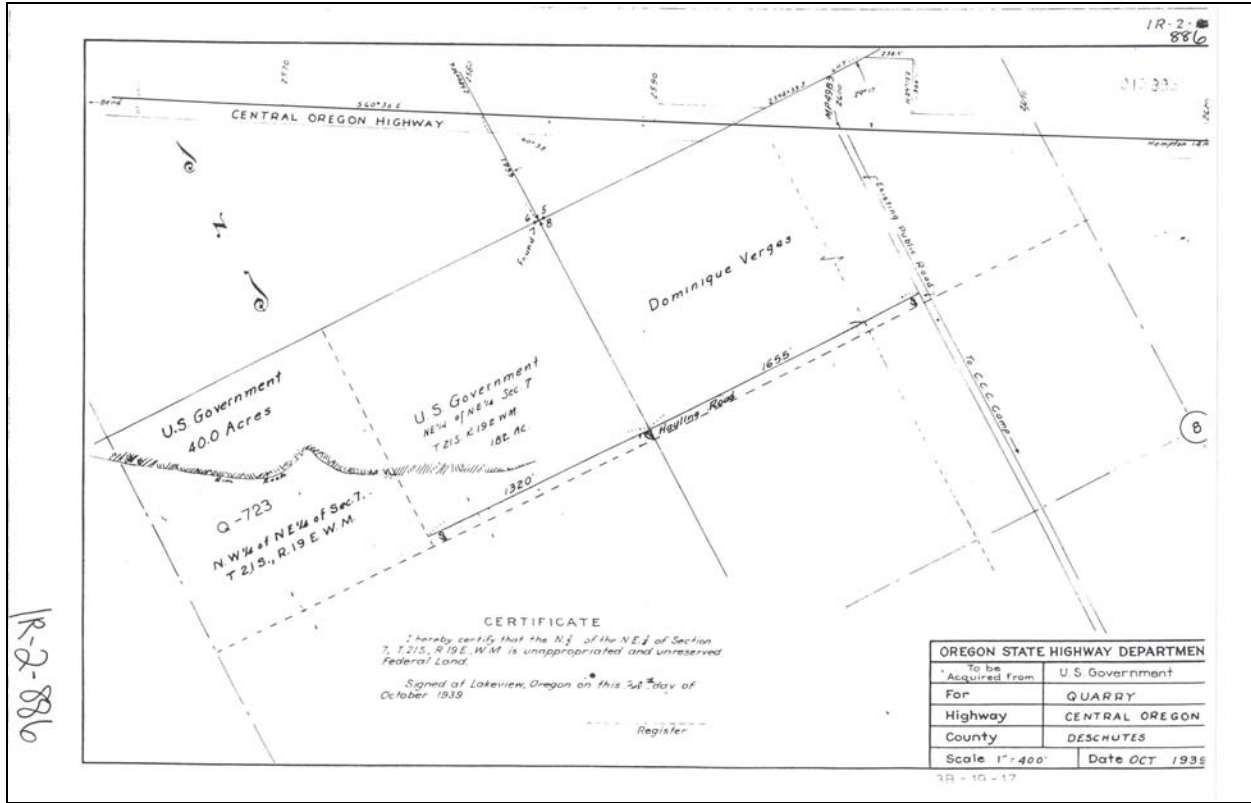
Aerial view of the cinder pit north of the highway.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes				10	0007	49.3	21S	19.0E	07
File ID		Source #	Date Visited	Map #			Type of Site		
Q0723		09-045-4	10/14/1999	1R-2-886			Raw Land		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 46'29.33524"	120 28'14.98834"	1381.733	40	NA					
Comments									
GPS acquired at county road and Highway 20.									
Rock Type	Unit	Color		Weathering			Jointing		
Basalt	QTb	Medium Grey (N5)		Fresh			Undetermined		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good to Fair			R3	160	200,000	432,000			
Potentially Significant Site	Why					Open/Closed	Direction		
No	Large acreage, room to work, good screening from the highway, good to fair rock.					Closed	NA		
Adjacent Land Use									
Open space									
Remarks									
This site is south of Highway 20. It is a raw piece of land that has no visible disturbance. There is a tabular basalt unit here that is approximately 40 feet thick. Columnar jointing is common in this igneous flow. There would be good screening for a site this close to the highway. There is also plenty of room to work here. The terrain is fairly flat. The easement off of Frederick Butte Road has been fenced. I could not get to this site to evaluate the material. I used site 09-040-4 as a template for the rock evaluation, since they are mapped in the same geological unit. If we ever want to develop this ground we will need a new easement. This is leased ground from the USA.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
		37.32					22.5	.4	
Material Use									
Base and AC (1972)									

NW



Looking to the northwest at the undisturbed site from Fredrick Butte County Road.



Aerial view of the site south of Highway 20.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0007	53.82	21S	19.0E	24
File ID		Source #	Date Visited	Map #		Type of Site				
06147, 06148		09-046-4	10/14/1999	1R-2-628		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 44'39.42000"	120 23'45.86000"	1365	42.02	<1						
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type	Unit	Color		Weathering			Jointing			
Volcanic Gravel	Qs	NA		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Poor			NA	120	645,000	1,044,900				
Potentially Significant Site	Why			Open/Closed	Direction					
No	Borrow site in an area of many borrow sites.			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This site is on the north side of Highway 20. The material at this site is composed of 95% sand/silt and 5% gravel. There is flat ground with no visible easement to the property. There is no screening and ample room to work. The 1R map has the county road in the wrong location in conjunction with the mile point. The quantity is based on a 10 foot lift for 40 acres.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	2.6	40								
Material Use										
CTB, BORROW (1938)										



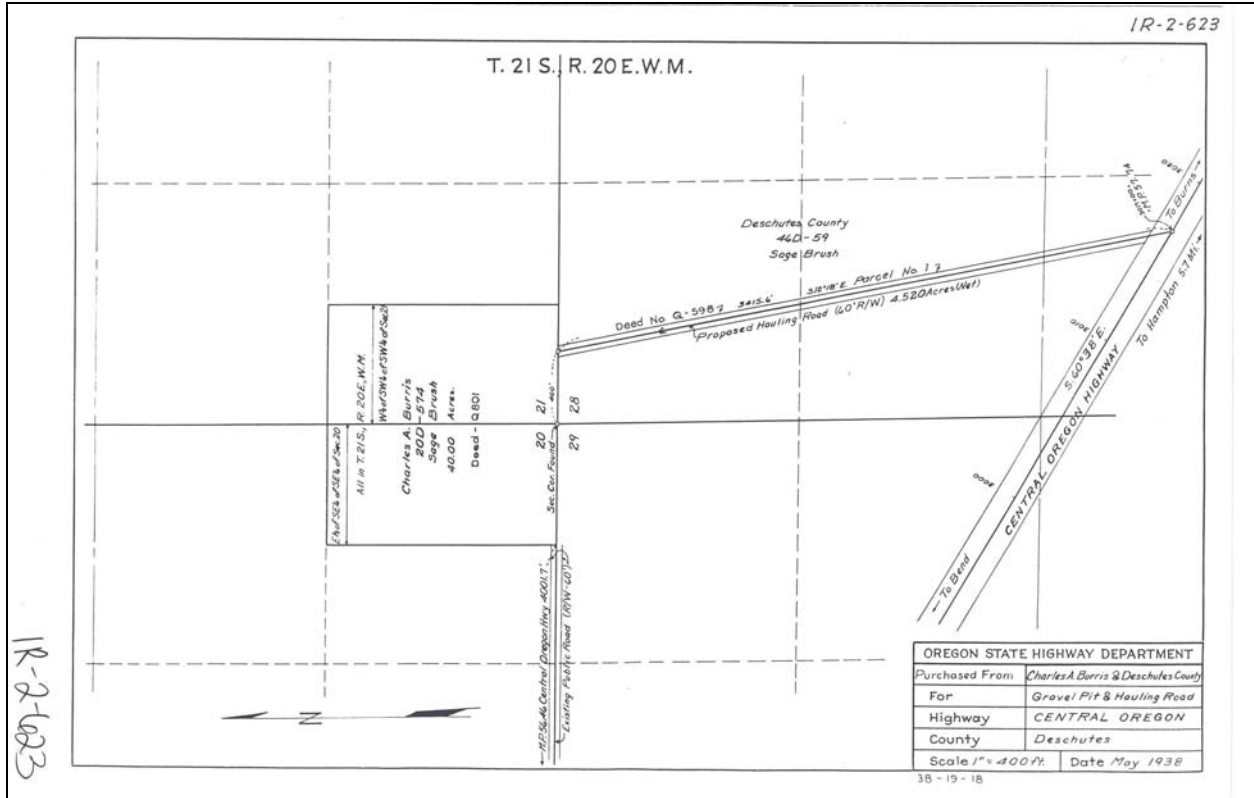
Looking to the northeast at the borrow site north of Highway 20.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes	Gravel Pit & Haul Rd.				10	0007	57.3	21S	20.0E	28
File ID		Source #	Date Visited	Map #		Type of Site				
06144, 06145, 06145A		09-047-4	10/14/1999	1R-2-623		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 43'39.70417"	120 20'21.86581"	1349.712	44.52	<6						
Comments										
GPS acquired along county road and site.										
Rock Type	Unit	Color	Weathering		Jointing					
Volcanic Gravel	Qs	NA	NA		NA					
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Poor			NA	120	240,000	388,800				
Potentially Significant Site	Why			Open/Closed	Direction					
No	Borrow site in an area of many borrow sites.			Closed	NA					
Adjacent Land Use										
Open space/Ranch to the north about one mile										
Remarks										
This site is located north of Highway 20 about 200 meters. This is a borrow site with most of the material as sand/silt with little to no gravel exposed. The past disturbance totals about 6 acres. The adjacent property has cross fenced our property and we no longer have access to this ground. The terrain is flat with plenty of room to work and minimal screening. There are many pits at this site with the total disturbance around 6 acres. The pits average about 8 feet deep. The quantity calculation is based on a 20 acre disturbance with a 10 foot pit depth, minus the past disturbance.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	2.52									
Material Use										
CTB (1972)										

NE



Looking to the northeast at the borrow site north of the highway.



Aerial view of the borrow site north of Highway 20.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes	Tinner Pit				10	0007	63.91	22S	21.0E	10
File ID		Source #	Date Visited	Map #			Type of Site			
Q0241		09-049-4	11/02/1999	1R-1-1042			Borrow			
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 40'0"7.7582"	120 10'32.515"	1361.219	5.51	<3						
Comments										
GPS acquired near section corner, southeast side of property.										
Rock Type	Unit	Color		Weathering			Jointing			
Volcanic Gravel	Qs	NA		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Poor			NA	120	80,000	129,600				
Potentially Significant Site	Why			Open/Closed	Direction					
No	Borrow site in an area of many borrow sites.			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This site is located east of Hampton about 1 mile. The material at this site is composed of 90% sand/silt and 10% pea gravel. The ground is flat with ample room to work and some screening. Near the base of a small butte, part of the pit is in a dry drainage ditch near the northeast corner of the property. The latitude and longitude of the access road is 43 40 11.18035 and 120 13 50.08827.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	2.47									
Material Use										
CTB, BORROW; Topping (1938)										

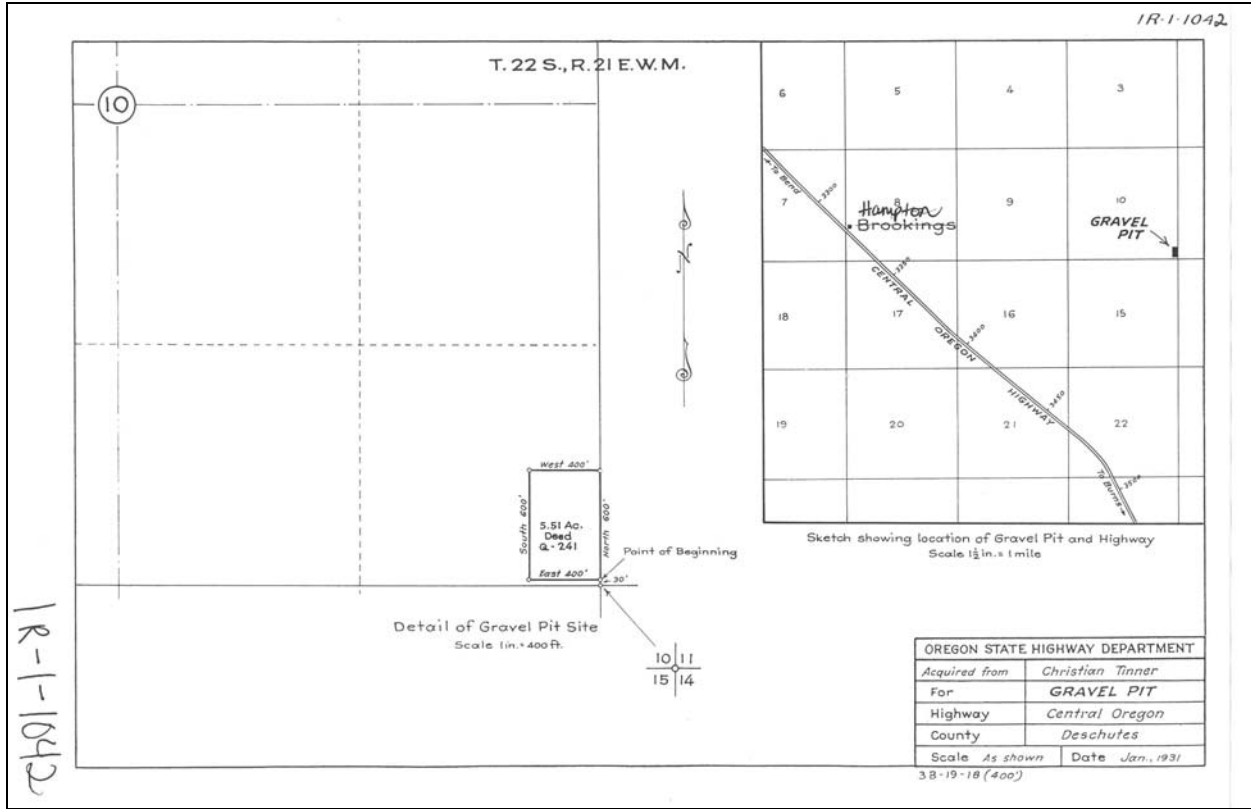
NW

N



Looking to the northwest at the small borrow site adjacent to the fence line.

Close-up view of the volcanic material at this location.



Aerial view of the borrow site, delineated by the fence line.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes				10	0007	66.25	22S	21.0E	15, 22
File ID		Source #	Date Visited	Map #			Type of Site		
06145B		09-050-4	11/02/1999	1R-2-624			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 39'29.45187"	120 10'51.7051"	1347.968	104.59	<3					
Comments									
GPS acquired in the pit and at the access road off of Highway 20.									
Rock Type	Unit	Color		Weathering			Jointing		
Volcanic Gravel	Qs	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good to Fair			NA	120	986,000	1,597,320			
Potentially Significant Site	Why			Open/Closed	Direction				
No	Borrow site in an area of many borrow sites.			Closed	NA				
Adjacent Land Use									
Open space									
Remarks									
This site is located off of Highway 20 to the north about 700 meters. The material at this site is composed of 40% pea gravel and 60% sand/silt. There is limited screening and plenty of room to work. This site is at the base of a small cliff composed of basalt. The basalt cliff is just off of our ground. Flat ground, unknown depth to bedrock, up to 29,000 cubic yards removed in the past. The quantity is based on a 10 foot lift for 100 acres.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.78	15.1							
Material Use									
CTB, BORROW; Topping and Road Mix (1937)									

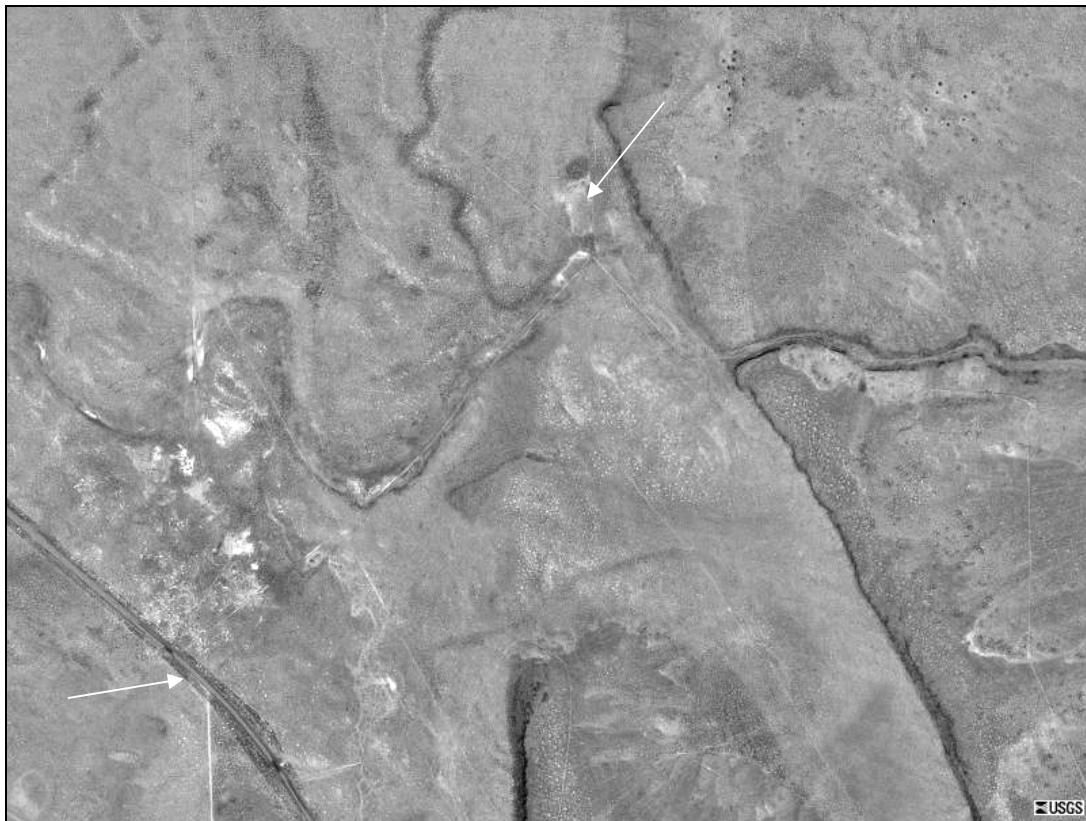
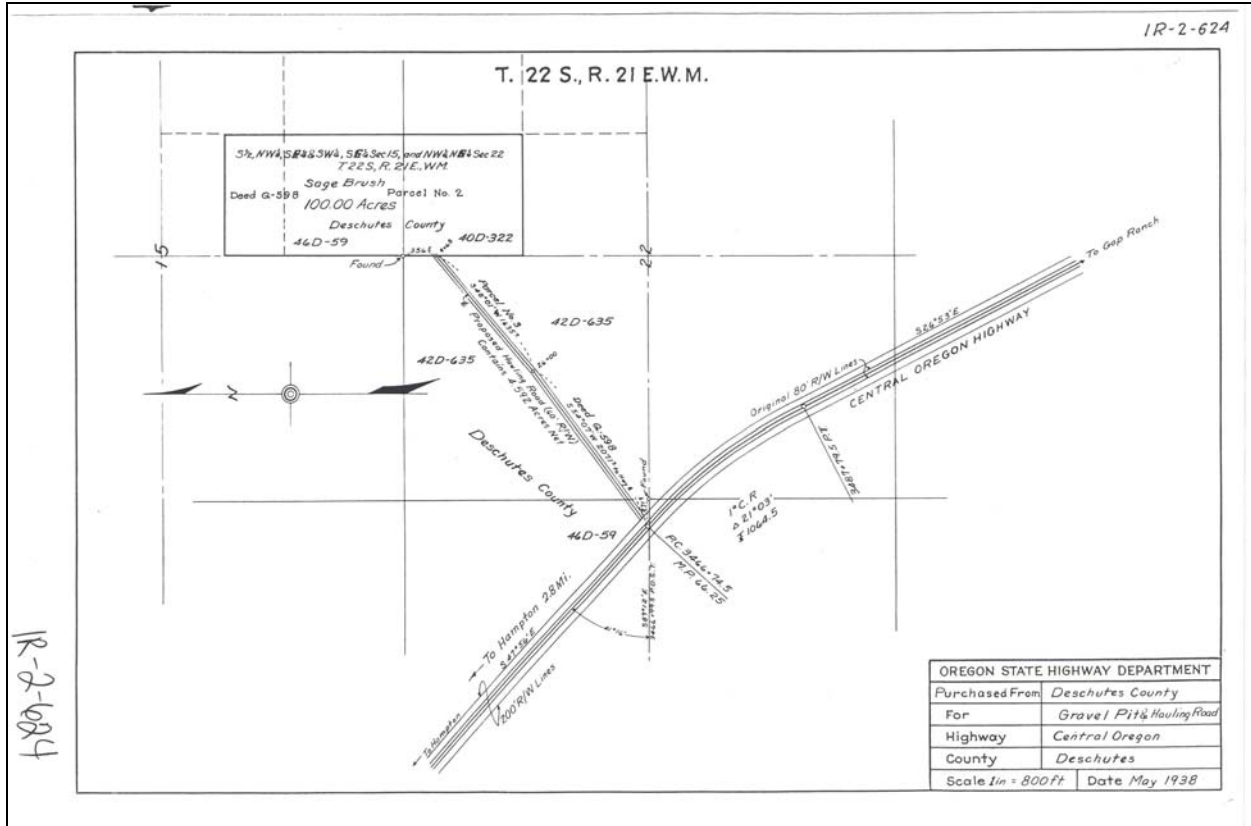
SE

NW



Looking to the southwest at the borrow site and the past disturbance.

Close-up view of the volcanic material at this location.

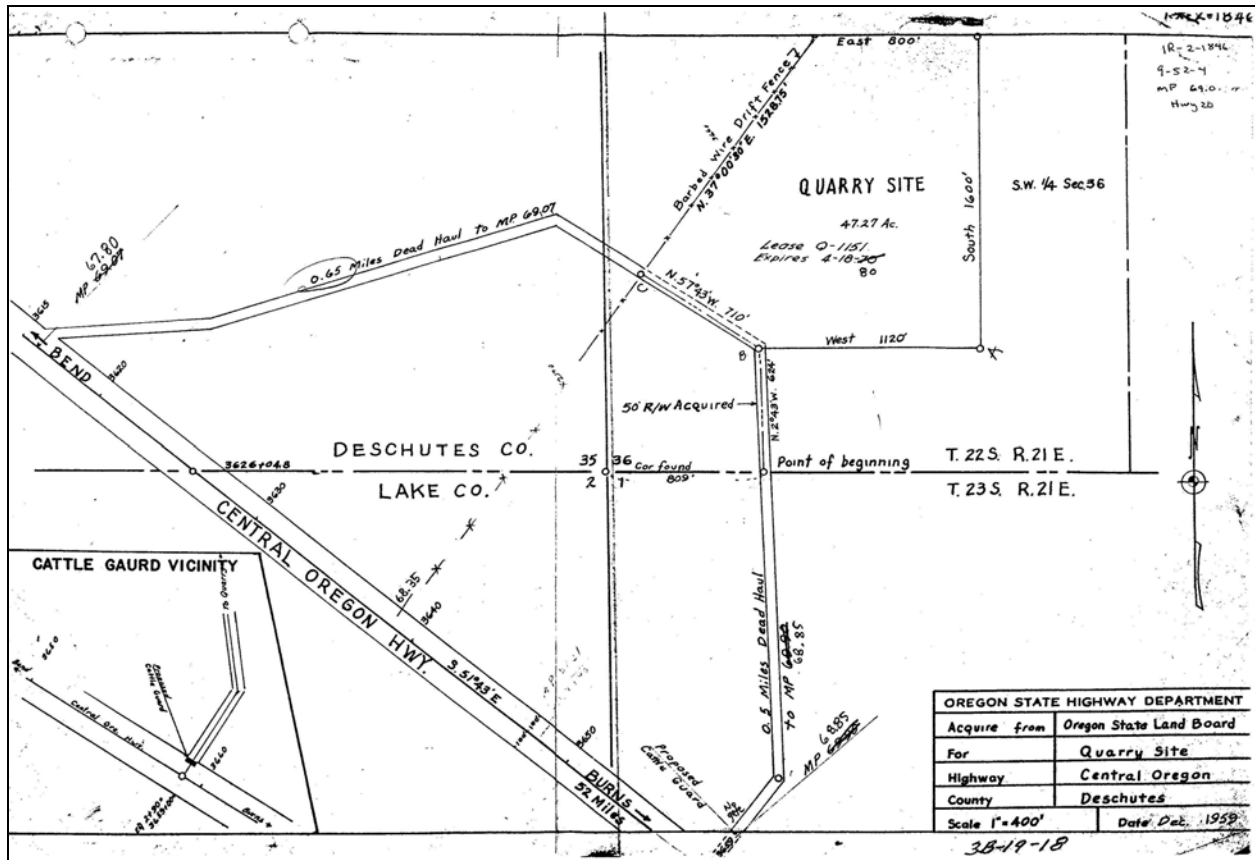


Aerial view of the borrow site located north of Highway 20. Access is in the lower left corner.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes				10	0007	69	22S	21.0E	36
File ID		Source #	Date Visited	Map #			Type of Site		
Q1151		09-052-4	05/03/2001	1R-2-1846			Raw Land		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 36'46.46559"	120 09'56.19831"	1356.161	47.27	NA					
Comments									
GPS acquired at access along Highway 20									
Rock Type	Unit	Color		Weathering			Jointing		
Basalt	Tob	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Fair			NA	150	800,000	1,620,000			
Potentially Significant Site	Why			Open/Closed	Direction				
No	NA			Closed	NA				
Adjacent Land Use									
Open Space									
Remarks									
This site is northeast of Highway 20 approximately 1/2 mile. This is raw land with no visible disturbance. The material here is a basalt along a flow front. There is room to work with limited screening. The terrain is very steep with relief around 200 feet. I did not hike in to see the site. Acquired the mage from Highway 20.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
		19.58					12.3	0.5	
Material Use									
1972									



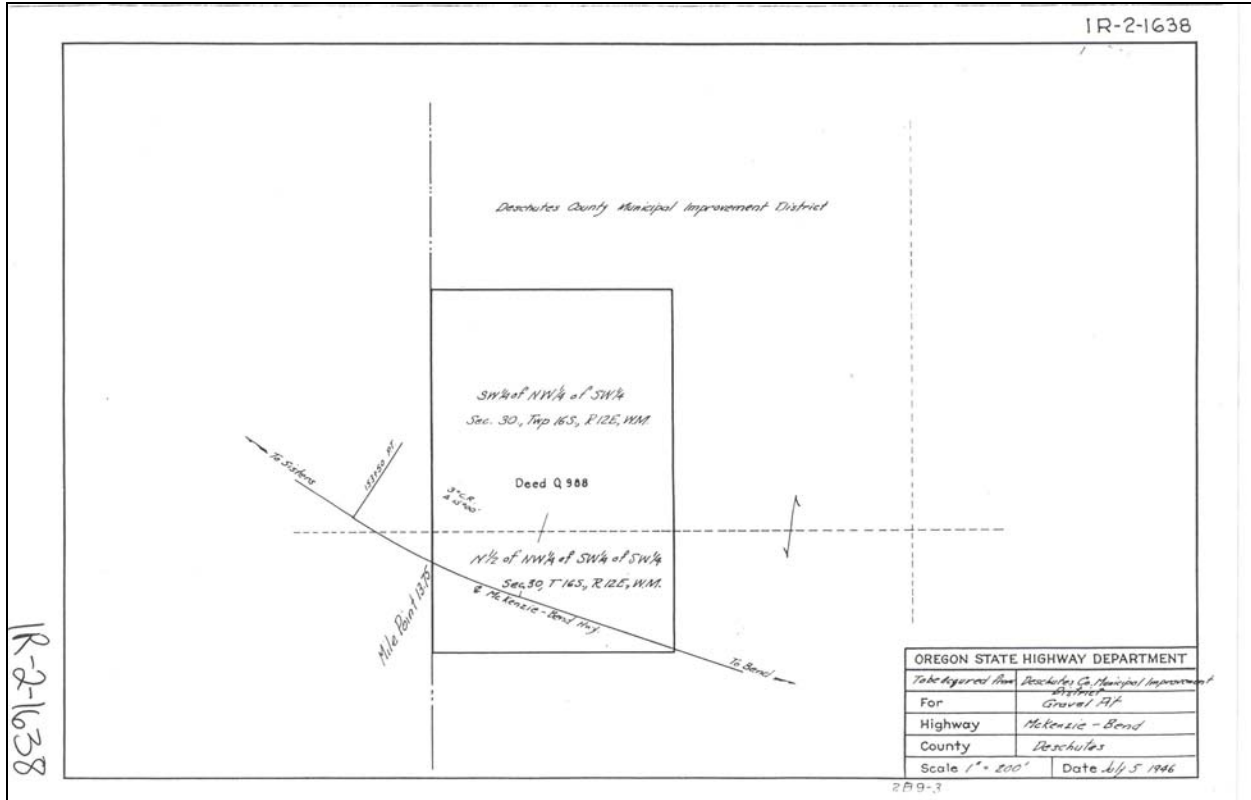
View looking across Highway 20 at the raw land site.



County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes	Tumalo Pit			10	0017	13.8	16S	12.0E	30
File ID		Source #	Date Visited	Map #			Type of Site		
12936		09-055-4	8/26/1999	1R-2-1638			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #				
44 09'28.45524"	121 20'34.93546"	1014.389	14.1	<10	09-0081				
Comments									
GPS acquired at access gate.									
Rock Type	Unit	Color	Weathering			Jointing			
Volcanic Gravel	Qs	NA	NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Fair to Poor			NA	120	160,000	259,200			
Potentially Significant Site	Why			Open/Closed	Direction				
No	This site is in use as a stock pile site, and is almost depleted of fill material.			Closed	To the east about one mile is the Deschutes River.				
Adjacent Land Use									
Residential homes on acreage adjacent to the north.									
Remarks									
This site is located just northwest of Tumalo on Highway 20. This property is being used as a stock pile site now. The material is composed of unconsolidated sand (95%), and minor gravel (5%). If the need arose, the pit floor could be lowered to acquire more fill. The quantity amount is based on a ten foot lift per ten acres. The property is bisected by Highway 20 and has no disturbance on the south side of the highway. There is no screening from the highway but there is ample room to work.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.74	27.2			21.71	.6			
Material Use									
BASEAG, AC; Surfacing and Base Course (1963)									



Looking to the southeast at the stockpile site along Highway 20.



Aerial view of the borrow/stock pile site located north of Highway 20.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0017	9.7	16S	11.0E	10
File ID		Source #	Date Visited	Map #		Type of Site				
17320, 16405, 16406		09-056-4	8/26/1999	1R-5-110, 1R-5-15		Raw Land				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 11'48.70883"	121 23'08.52163"	998.805	60	NA						
Comments										
GPS acquired along Innes Market Road and the property.										
Rock Type	Unit	Color	Weathering		Jointing					
Basalt	Qtba	NA	NA		NA					
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good to Poor			NA	120	160,000	259,200				
Potentially Significant Site	Why				Open/Closed		Direction			
No	This site has not been proven in quality or quantity yet.				Closed		NA			
Adjacent Land Use										
Open space/Rural Residential										
Remarks										
This site is located on Innes Market Road east of Highway 20 about 1200 meters. This site is raw land with no disturbances. There are some exposures of a porphyritic basalt of undetermined thickness on the side of the hill. There is a cat cut at the base of the hill that has exposed some scoriaceous basalt but little else. There could be up to 5 feet of overburden here, limited screening from the county road. Flat to moderately steep terrain. The property would need an assessment. USA ground. The quantity I calculated is based on 10 acres and a 10 foot lift.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

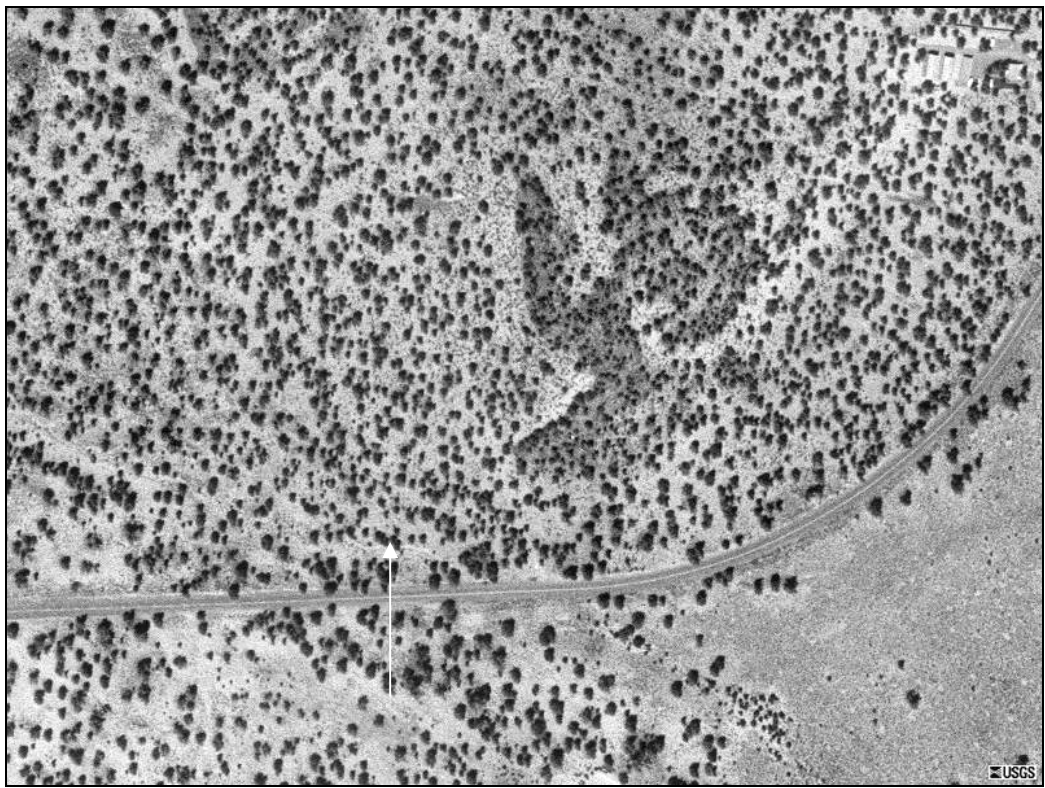
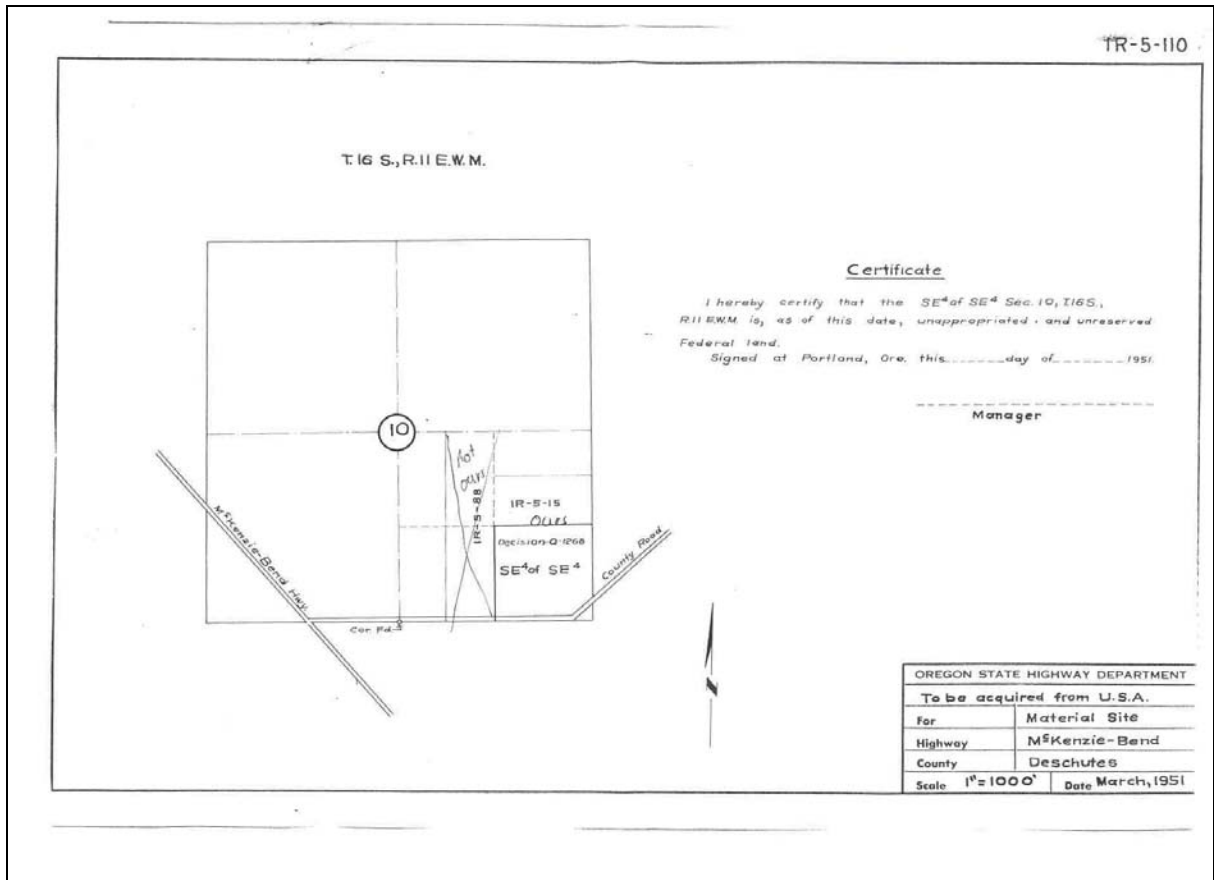
NW

NE



Looking to the north across Innes Market Road at the undisturbed volcanic terrain.

Close-up view of a volcanic flow front at this location.



Aerial view of the undisturbed ground that comprises this site.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes				10	0015	102.9	15S	12.0E	18
File ID		Source #	Date Visited	Map #			Type of Site		
16647, 22969		09-064-4	8/19/1999	1R-5-36, 1R-5-654			Cinder Pit		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #				
44° 16' 06.84736	121° 20' 54.12291	931.363	30	<3	09-0160				
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color	Weathering			Jointing			
Cinder	NA	NA	NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good			NA	120	500,000	810,000			
Potentially Significant Site	Why			Open/Closed	Direction				
No	BLM property/Leased			Closed	NA				
Adjacent Land Use									
Open space									
Remarks									
This site is located about one mile south of Highway 126. This is a cinder pit on BLM ground. Approximately 100,000 cubic yards removed. Heavy use as a gun range, and motto cross track. Access point latitude and longitude is 44 17'29.8685",121 19'54.63567".									
202B	203B	211	206 Fine	206 Coarse	208 F Ht.	208 F Ht.	208 C	208 C Ht.	
	2.75	41.8			29.56	.3			
Material Use									
SAND AG; Surfacing Base (1963)									

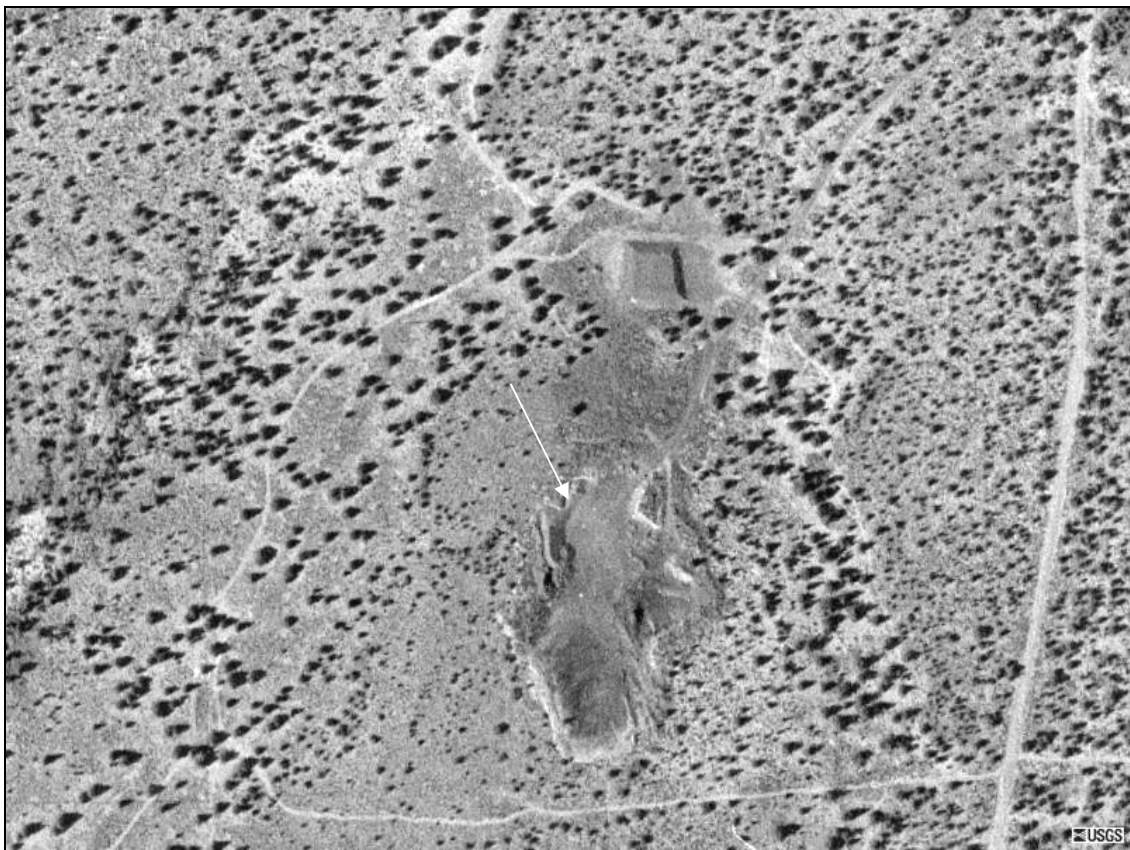
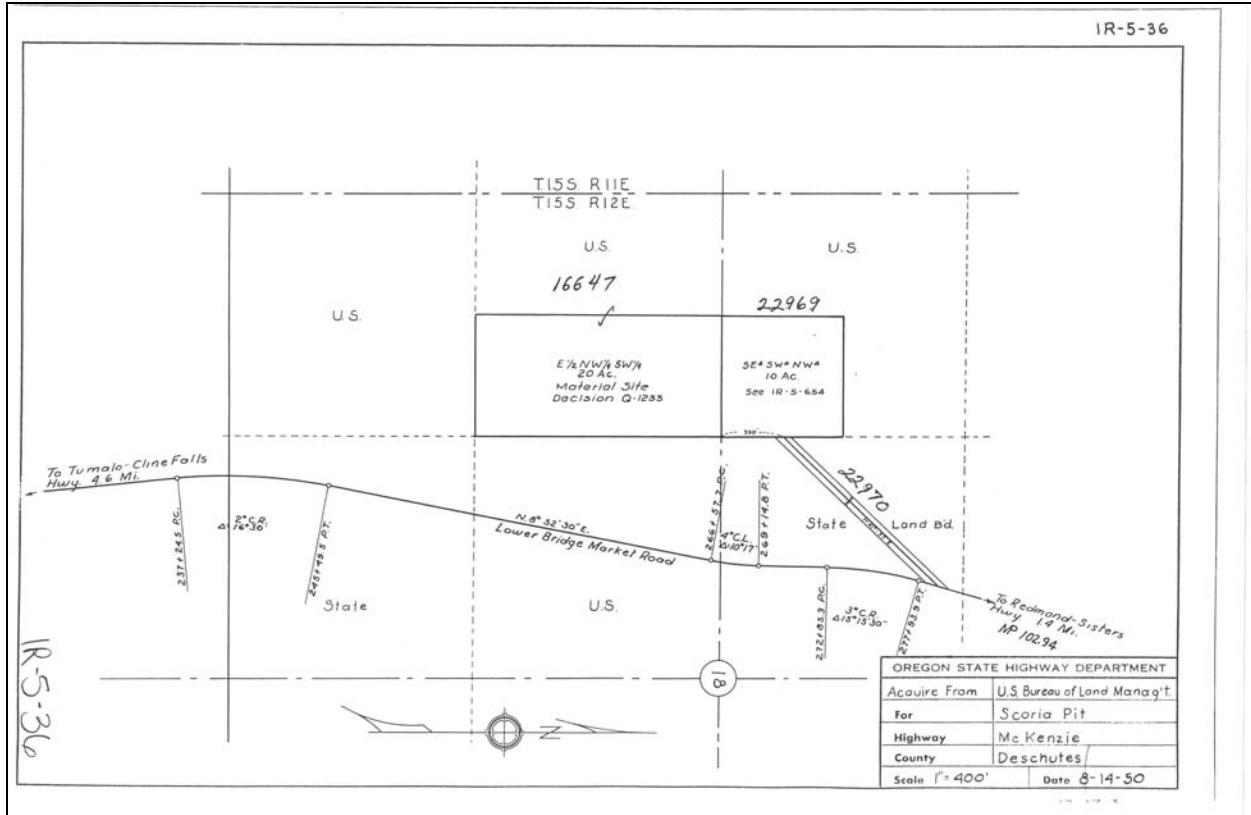
E

S



Looking to the southeast at the cinder pit.

Close-up view of the scoriaceous basalt at this location with the hammer for scale.



Aerial view of the cinder pit.

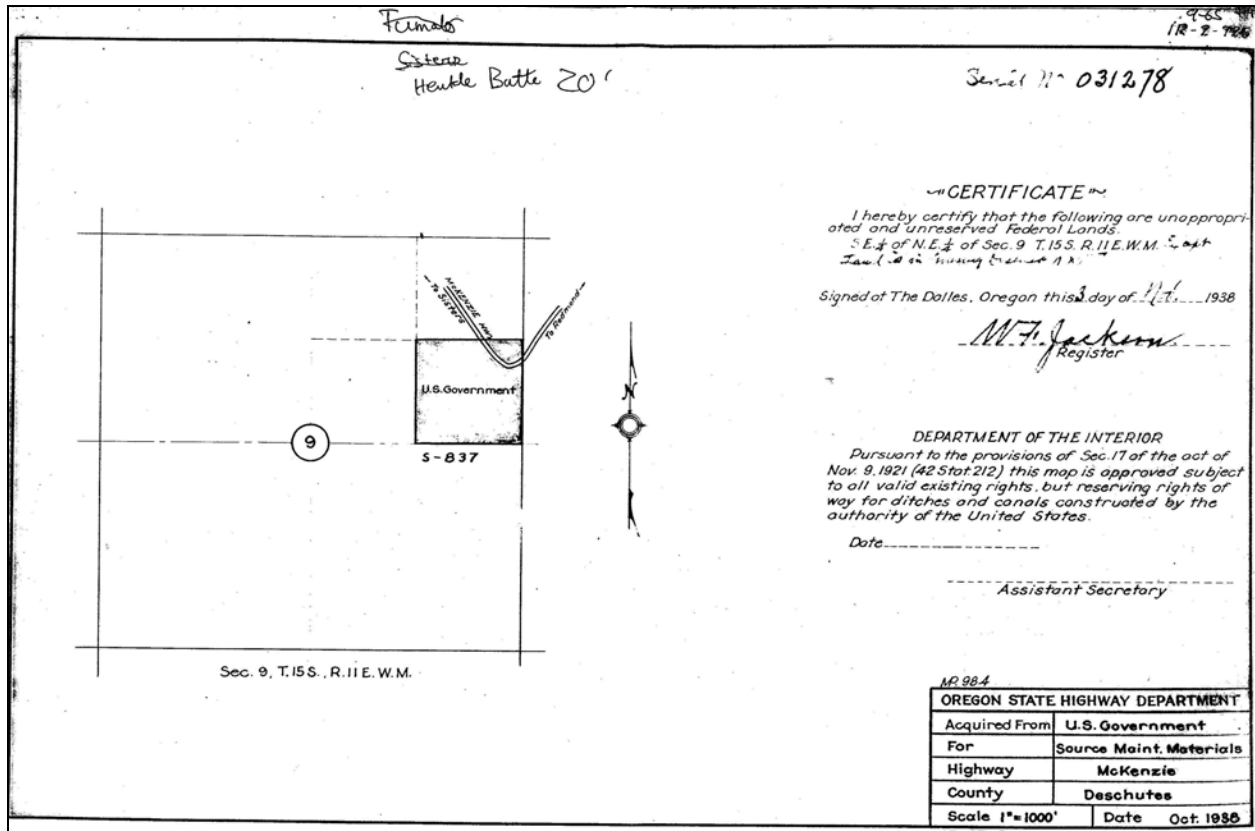
County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0015	99.93	15S	11.0E	09
File ID		Source #	Date Visited	Map #			Type of Site			
S0837		09-065-4	05/01/2001	1R-2-725			Raw Land			
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 17'12.72000"	121 24'47.16000"	918	40	NA						
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type	Unit	Color	Weathering			Jointing				
Basalt	Tob	NA	NA			NA				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair			NA	150	484,000	980,100				
Potentially Significant Site	Why			Open/Closed	Direction					
No	USA Ground			Closed	Na					
Adjacent Land Use										
NA										
Remarks										
This site is south of Highway 126 about 150 meters. This is raw land with no visible disturbance. There is no access to this site along the old highway alignment. The rock here is a vesicular basalt of marginal quality. There is no room to work, but good screening from the highway. There is a home less than 100 meters away from the site. The site occupies the edge of a small canyon. Site 09-066-4 is adjacent.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
		20.9								
Material Use										

E

S



Looking to the southeast at the raw land site in the draw (09-066-5) and the adjacent raw land site along the old highway alignment shown at the right side of the image.



Aerial view of the raw land site in relation to Highway 126.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0015	99.3	15S	11.0E	10
File ID		Source #	Date Visited	Map #		Type of Site				
16330		09-066-4	05/01/2001	1B-17-3		Gravel				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 17'05.35708"	121 24'38.87635"	870.576	20	<1						
Comments										
GPS acquired on site.										
Rock Type	Unit	Color		Weathering			Jointing			
Volcanic Gravel	Tob	NA		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			NA	120						
Potentially Significant Site	Why			Open/Closed	Direction					
No	USA Ground			Closed	Dry Creek (Deep Canyon) bisects ground					
Adjacent Land Use										
Open Space										
Remarks										
This site is south of Highway 126 about 150 meters. The ground is located in Deep Canyon and the material is both lava flows of basalt and volcanic gravel in the dry creek bed. The gravel is composed of small boulder and less (40%) with the rest sand and silt (60%) size. There is room to work with limited screening. Site 09-065-4 is adjacent.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
		20.0								
Material Use										

NW

E



View to the north of the gravel site within the draw. Highway 126 is in the upper left hand corner.

Close-up view of the volcanic gravel at this site with the hammer for scale.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes				10	0015	94.9	15S	10.0E	11
File ID		Source #	Date Visited	Map #			Type of Site		
06464, 06480, 09985		09-068-4	8/24/1999	1R-2-755			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 17'08.58217"	121 30'39.5192"	953.328	23.28	<3		09-0154			
Comments									
GPS acquired in the pit.									
Rock Type		Unit	Color	Weathering			Jointing		
Volcanic Gravel		Qs	NA	NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good to Fair			NA	120	150,000	243,000			
Potentially Significant Site	Why			Open/Closed	Direction				
No	Borrow site			Closed	North across Highway 126 is Squaw Creek				
Adjacent Land Use									
Ranching/Minor residences within the Sisters vicinity									
Remarks									
This site is located on Highway 126 just east of Sisters. The material is composed of poorly sorted, rounded to well-rounded volcanic gravel. The break down is 60% sand, and 40% gravel. The gravel is further divided up; boulder (<5%), then cobble (<25%), then pebble (<10%). There is limited screening with plenty of room to work on flat ground. The site is being used for waste rock and a minor service stock pile site. Minor timber with 40 foot Pines and some Juniper. Most of the property has had some prior disturbance.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
2.660	2.61	28.6	1.5	.5			17.8	.2	
Material Use									
AC (1991)									

NW

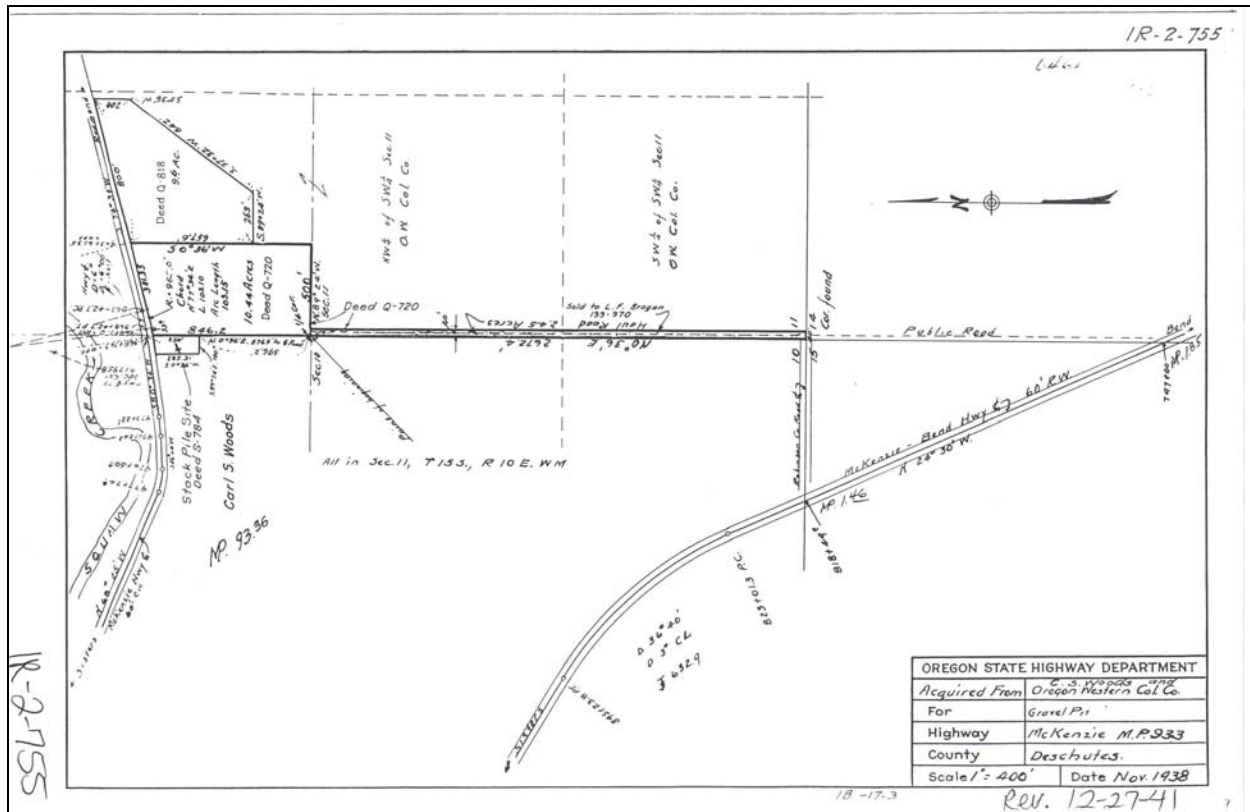
S



Panoramic view looking to the southeast at the disturbed ground here at this location.



Close-up view of the volcanic gravel at this site.

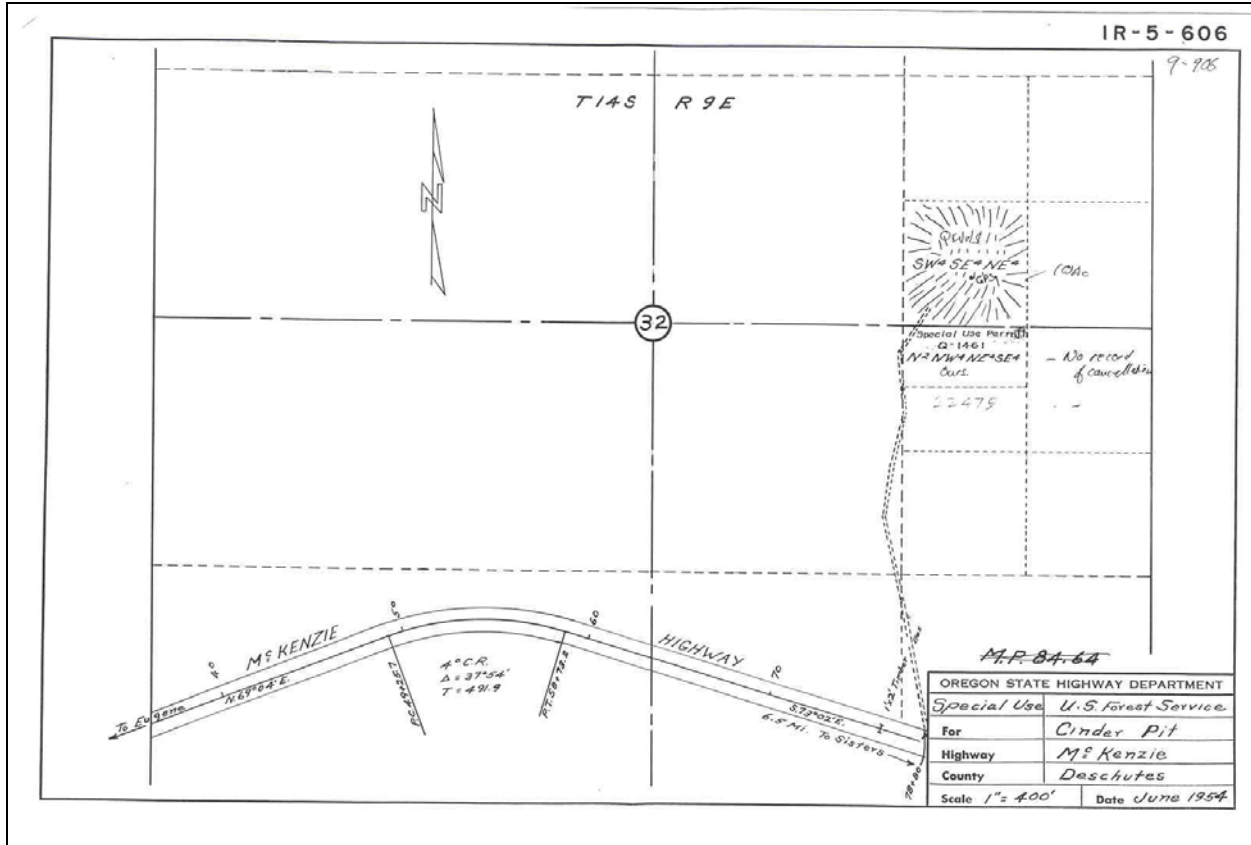


Aerial view of the gravel/borrow site along Highway 126.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes	Fourmile Butte Quarry			10	0015	86.24	14S	09.0E	32
File ID		Source #	Date Visited	Map #			Type of Site		
22479		09-069-4	8/24/1999	1R-5-606			Cinder Pit		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 18'24.12222"	121 40'49.65126"	1127.293	15	<3					
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color		Weathering			Jointing		
Cinder	QTp	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good			NA	120					
Potentially Significant Site	Why			Open/Closed	Direction				
No	Leased property			Closed	NA				
Adjacent Land Use									
Open space									
Remarks									
This site is located off of the McKenzie Highway. The access to the property needs some road work. This site has heavy use as a rifle range. There is limited room to work around the butte. Good screening from the road. Good source of somewhat clean cinders. This is Forest Service ground and would need a special use permit to open the ground back up. Approximately 150,000 cubic yards have been removed to date.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
Material Use									



Looking to the northwest from the cinder pit.
Black Butte is in the background of the image, above the vehicle.



Aerial view of the cinder pit with the access road from Highway 126.

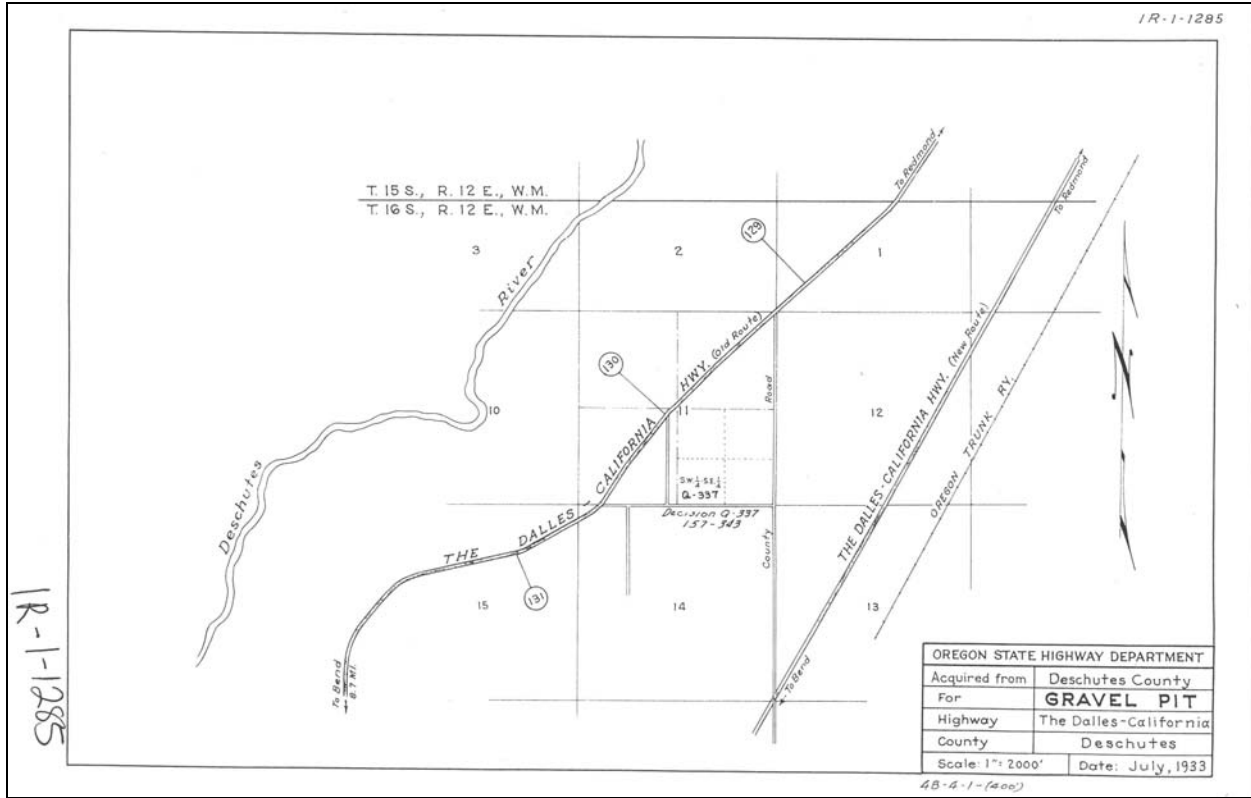
County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes	Peterson Rock Garden Pit			10	0375	6.7	16S	12.0E	11
File ID		Source #	Date Visited	Map #			Type of Site		
39872		09-071-4	8/25/1999	1R-1-1285			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 11'50.00886"	121 15'06.46712"	926.618	40	<8		09-0123			
Comments									
GPS acquired in the pit.									
Rock Type		Unit	Color		Weathering		Jointing		
Andesite/Volcanic Gravel		Qs	Medium Grey (N5)		Fresh		NA		
Quality			Hardness	lbs./cu ft.		Reserve (cy)		Reserve (Tons)	
Fair to Poor			R2 to R3	120		240,000		521,640	
Potentially Significant Site	Why			Open/Closed		Direction			
No	Quality is in question, site being filled in with waste rock.			Closed		Adjacent on the west side of this site is an irrigation ditch.			
Adjacent Land Use									
Remarks									
This site is located between Bend and Redmond on Young Road. This ground is composed of a thin andesite flow that caps a poorly sorted, friable material composed of 90% sand/silt, and 10% gravel size pebbles. The property has no screening, with plenty of room to work. The Pilot Butte Canal Ditch bisects the northwest corner of our property. It appears we own about 7 acres on the west side of the canal. There is no gate here and the site is taking on the appearance of a small landfill. We also use this site for stock piling crushed aggregate.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.75	4.3							
Material Use									
BORROW (1936)									



Panoramic view of the borrow site located north of Young Rd.



Close-up view of the thin andesite flow at this location.

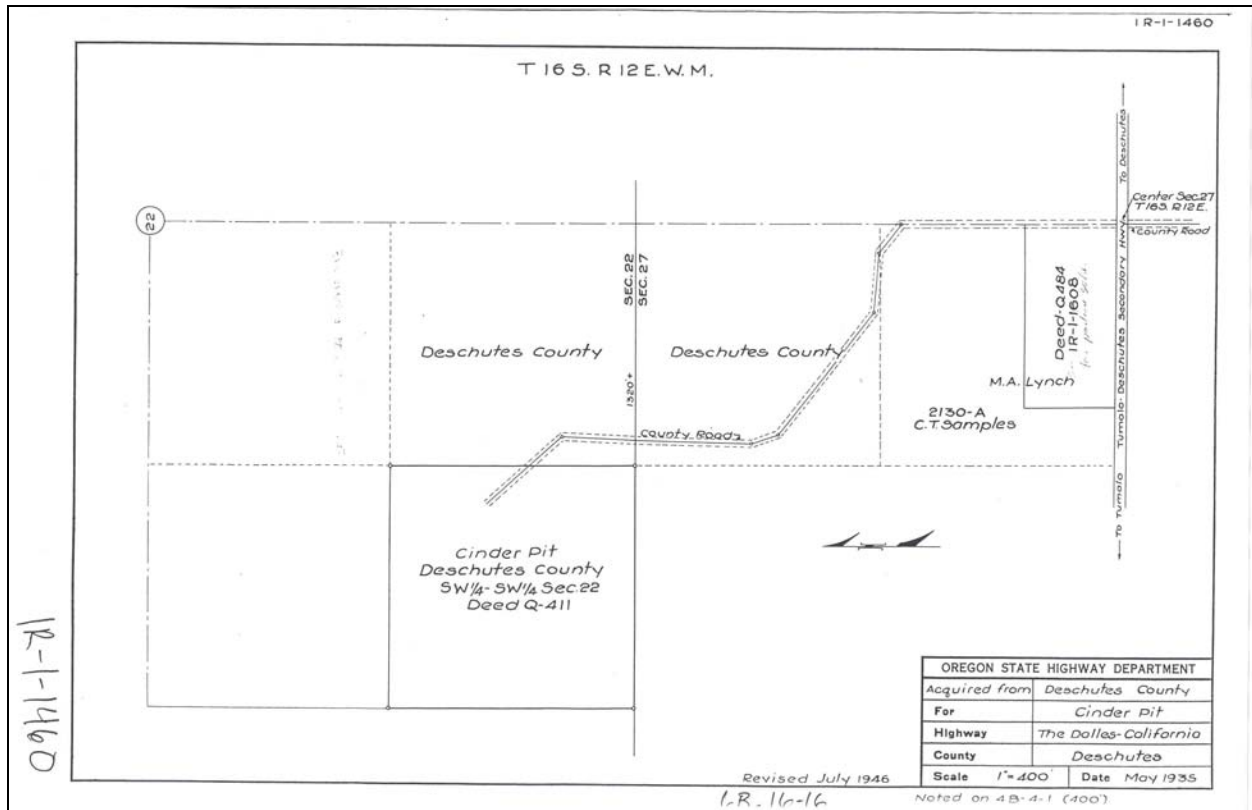


Aerial view of the borrow site located between the irrigation ditch and Young Road.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes	Long Butte			10	0004	132.13	16	12.0E	22, 27
File ID		Source #	Date Visited		Map #		Type of Site		
02129, 02130, 03621, Q0350		09-072-4	8/26/1999		1R-1-1460, 1R-1-1324		Cinder Pit		
Latitude		Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #		
44 10'08.25093"		121 16'46.70033"	1020.395	42.59	<20		09-0002		
Comments									
GPS acquired in the pit.									
Rock Type		Unit	Color		Weathering		Jointing		
Cinder		QTP	NA		NA		NA		
Quality				Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)		
Good				NA	120	320,000	518,400		
Potentially Significant Site		Why			Open/Closed	Direction			
No		NA			Closed	NA			
Adjacent Land Use									
Residential									
Remarks									
This site is located north of the Tumalo-Deschutes Highway about one mile. The material here is a very good source for cinder. It appears to be very clean with little waste. There is no screening here, but ample room to work. The site is surrounded by residential homes. Our property is bound on the north and east by private quarries. The quantity is based on ten foot lifts per twenty acres. The northern boundary of the pit is at the property line. We would need to survey this site and develop a plan to continue removing sanding material from here. There is a private site adjacent to the north and west of our ground. The county was removing material from our ground the day I was there. There is a small area at the northeast corner of our property that has a thin basalt flow that could be removed for aggregate if the need ever arose. The south/south west portion of the property is flat undisturbed and could account for more sanding material.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.75	69.0							
Material Use									
SAND AG; Oil Rock (1955)									



Looking to the north at Long Butte and the disturbance at this location.



Aerial view of Long Butte and the surrounding property.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0373	5.74	16S	12.0E	08
File ID		Source #	Date Visited	Map #		Type of Site				
12232		09-073-4	8/26/1999	1R-2-1642		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 12'28.61185"	121 19'07.43829"	969.687	10	<2						
Comments										
GPS acquired along Cline Falls Highway and access point.										
Rock Type	Unit	Color		Weathering			Jointing			
Volcanic Gravel	Ts	NA		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair to Poor			NA	120	110,000	178,200				
Potentially Significant Site	Why			Open/Closed	Direction					
No	Not much aggregate at this location.			Closed	NA					
Adjacent Land Use										
Residential homes on acreage surround the property.										
Remarks										
This site is adjacent and east of Kline Falls Highway. The material is composed of poorly sorted, rounded to well-rounded heterogeneous mix of gravel (20%) and sand (80%). The dominant size gravel is around 1 centimeter with the largest in the boulder category. There is no screening and plenty of room to work. This site appears to be used for a waste site. Someone has installed a electric fence around our property.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	2.57	28.2								
Material Use										
Topping and Oil Rock (1946)										

SE

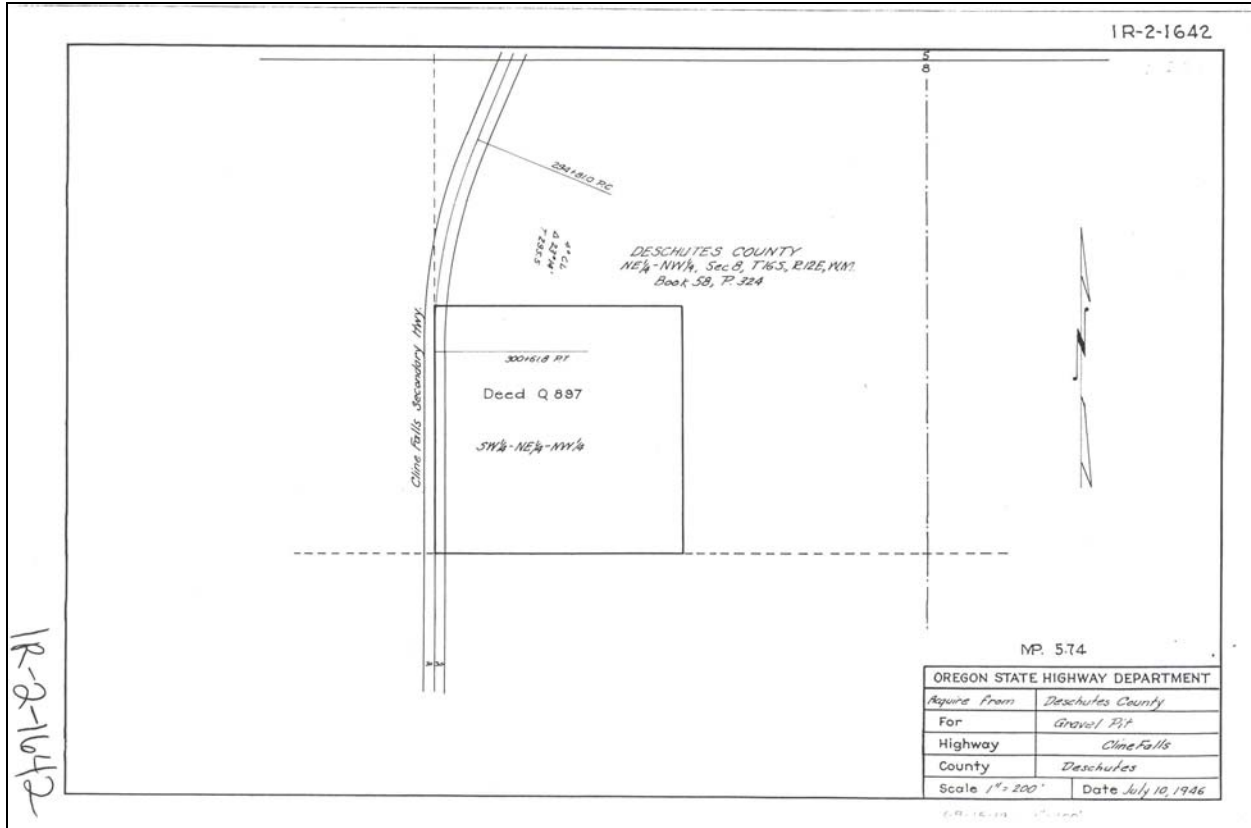
W



Looking to the southwest at the borrow site along Kline Falls Highway.



Close-up of the volcanic material and the bedding planes at this location with the hammer for scale.



Aerial view of the borrow site in relation to the surrounding property.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes	Century Drive Gravel Pit			10	0372	7.77	18S	11.0E	21
File ID		Source #	Date Visited	Map #			Type of Site		
08702		09-079-4	8/26/1999	1R-2-1089			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 59'36.8789"	121 25'01.55368"	1237.072	80	<30		09-0076			
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color	Weathering			Jointing			
Volcanic Gravel	QTba	NA	NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good			NA	120	20,000	32,400			
Potentially Significant Site	Why	Open/Closed	Direction						
No	Borrow site	Closed	The Deschutes River is to the east approximately 1000 meters.						
Adjacent Land Use									
Forest Service Ground									
Remarks									
This site is located adjacent to and south east of Century Drive. The material at this site is well-rounded gravel (50%), and sand/silt (50%). The dominant size is around cobble (12 cm), with a high percentage of pea gravel. The property has plenty of room to work with fair screening and no overburden. This ground is leased from the Forest Service and is all but depleted. There is still timber (pine) on the property. The terrain is flat. There is no gate or fencing for this site. When I visited this site Maintenance was using it for training on there graders.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
2.56	2.61	25.2	4.0	2.6			10.5	0.3	
Material Use									
AC BASE (1991)									

NW

SE



Panoramic view of the gravel/borrow site south of Century Drive.

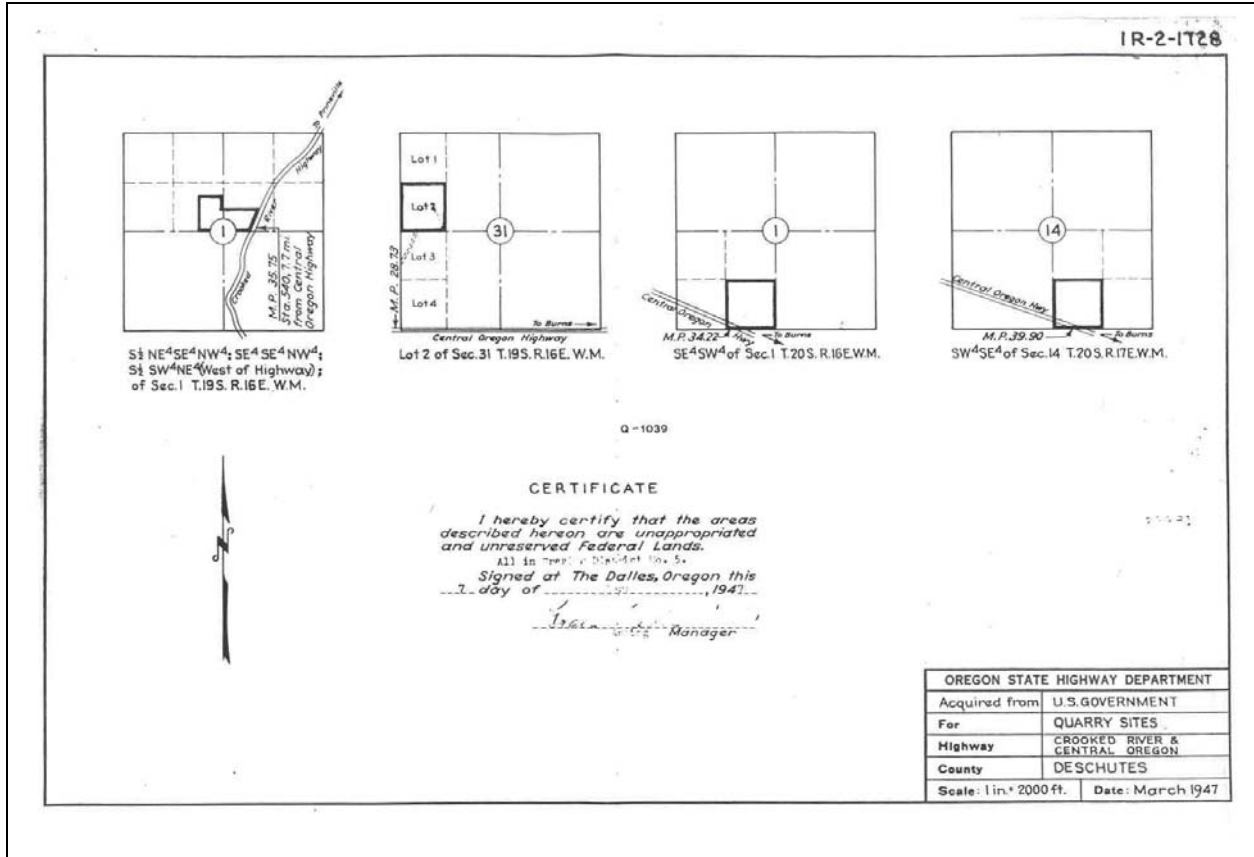


Close-up view of the volcanic gravel at this location, with the hammer for scale.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes				10	0014	35.75	19S	16.0E	01
File ID		Source #	Date Visited	Map #			Type of Site		
13577		09-085-4	10/13/1999	1R-2-1728			Raw Land		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 57'00.44000"	120 45'19.59000"	1219	120	NA					
Comments									
Lat. and Long. acquired using Terrain Navigator Software									
Rock Type	Unit	Color		Weathering			Jointing		
Volcanic	Tba	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Fair to Poor			NA	120	600,000				
Potentially Significant Site	Why	Open/Closed		Direction					
No	USA ground	Closed		Dry Creek bed to the east across the gravel road.					
Adjacent Land Use									
Open space with one ranch to the northeast approximately 1000 meters.									
Remarks									
I did not find this exact location. I evaluated the general area for lithologies and anomalies. This area has few thin basalt flows, with the dominant lithology being pyroclastics. They are water laid tuffs, air fall tuffs, and some lapilli tuffs in this area here. The terrain is fairly steep with narrow canyons. The road is gravel and the site location is approximately 8 miles north of Highway 20, on Highway 27. USA ground. A conversation with Region geology informs that there could be some Columbia River Basalts in the area. It appears from the property notes that there is some dice rock up on top to the surrounding hills. The mileage point for this site from the 1R- map is inaccurate. A survey might make sense for future reference if we intend to use this ground.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.79	13.6							
Material Use									



Looking west at the location of the 120 acre raw land site along Highway 27.

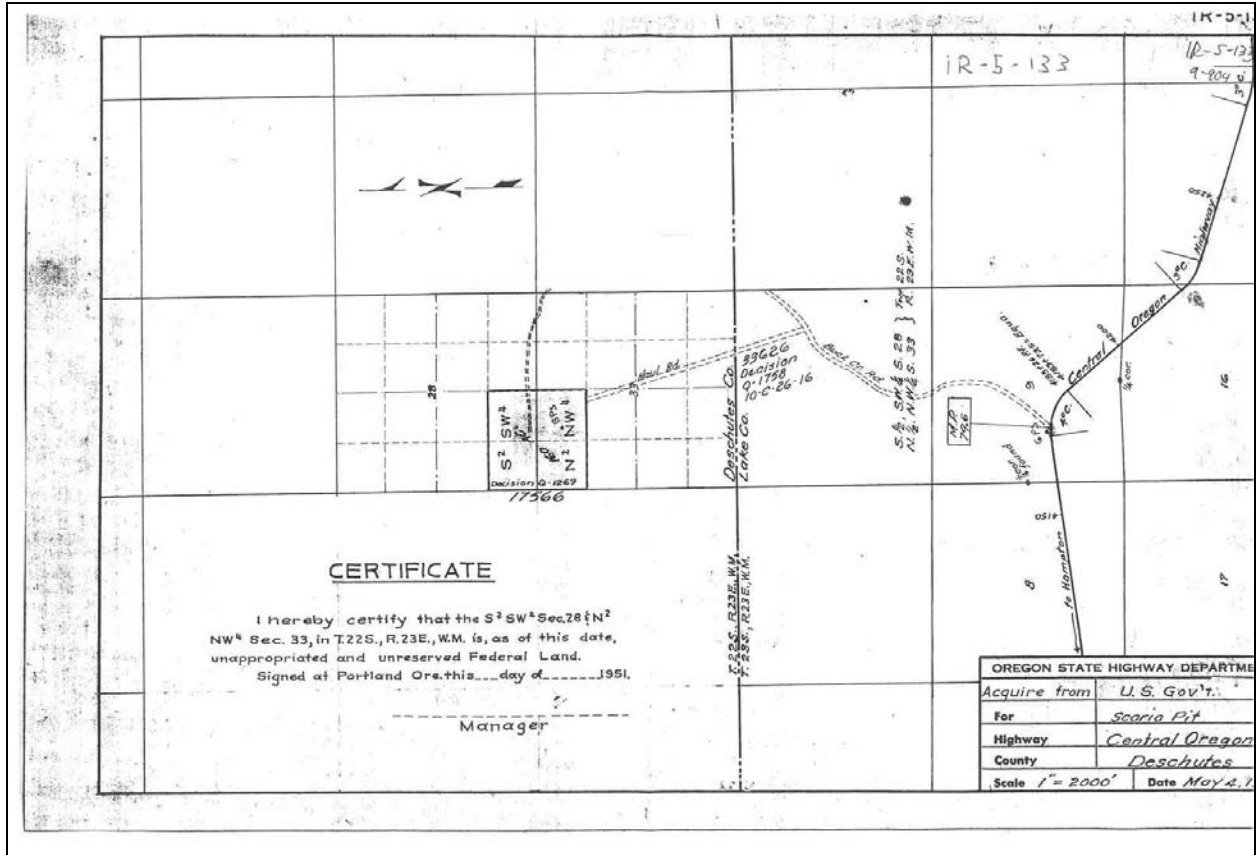


Aerial view of the terrain along Highway 27.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes				10	0007	79.6	22S	23.0E	28, 33
File ID		Source #	Date Visited	Map #			Type of Site		
17566		09-088-4	11/02/1999	1R-5-133			Cinder Pit		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 37'25.18507"	119 58'04.34105"	1396.559	160	<12		09-0158			
Comments									
GPS acquired in one of the pits.									
Rock Type	Unit	Color		Weathering			Jointing		
Cinder	QTp	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Very Good to Good			NA	120	2,500,000	4,050,000			
Potentially Significant Site	Why			Open/Closed	Direction				
No	This site is leased from the USA.			Closed	NA				
Adjacent Land Use									
Open space									
Remarks									
This site is located at the far extreme eastern portion of Deschutes County. It is an excellent source of clean loose cinders. There would be very little crushing here at this site due to the size of the cinders. There is a large amount of acreage here to develop. The total amount of cinders is huge so I calculated the quantity on ten foot lifts per 160 acres. There is some screening and ample room to work. This site is leased from the USA. This site has loose unconsolidated material and would not support any bench work at this site. The latitude and longitude for the access road is 43° 35' 28.27571, 119° 58' 13.30939.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.68	26.3							
Material Use									
SAND AG; AC (1951)									



Looking west at one of the cinder pits here at this location.



Aerial view of the cinder pit north of Highway 20.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0007	0	19S	15.0E	16
File ID		Source #	Date Visited	Map #			Type of Site			
Q1243		09-098-4	05/03/2001	1R-5-27			Cinder Pit			
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 55'53.21358"	120 56'13.08569"	1332.935	80	<3						
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color	Weathering			Jointing				
Cinder	QTp	NA	NA			NA				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			NA	120	1,000,000	1,620,000				
Potentially Significant Site	Why			Open/Closed	Direction					
No	NA			Closed	NA					
Adjacent Land Use										
Open Space										
Remarks										
This site is located north of Highway 20 about 4 miles. The material here is good clean scoriaceous basalt. Easy to rip, minimal processing, room to work with good screening. The disturbance exceeds the 1R maps boundaries to the north. Quantity per Region 4.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

S

W

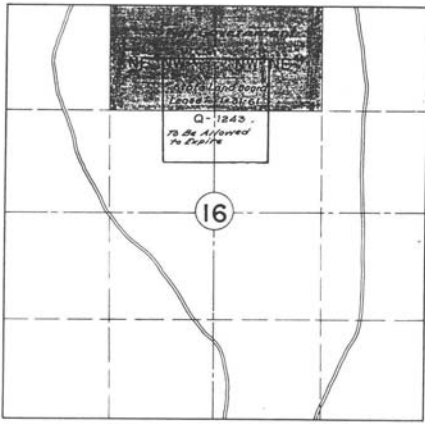
N



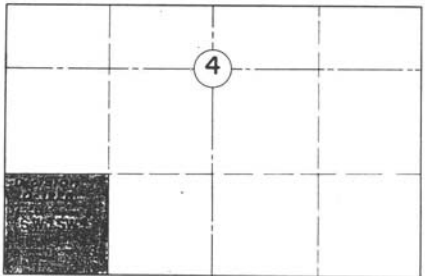
180 degree view of the cinder site north of Highway 20.

1R-5-27

T. 19 S., R. 15 E. W.M.



T. 21 S., R. 18 E. W.M.



Certificate

I hereby certify that the ~~NE¹ NW⁴ and NW⁴ NE⁴ of Sec. 16, T. 19 S., R. 15 E. W. M.~~ and the ~~SW⁴ SW⁴ of Sec. 4, T. 21 S., R. 18 E. W. M.~~ are, as of this date unappropriated and unreserved Federal land.

Signed at Portland, Oregon this...day of.....1950

Manager

OREGON STATE HIGHWAY DEPARTMENT	
To be acquired from U. S. A.	
For	Quarry Sites
Highway	Central Oregon
County	Deschutes
Scale 1" = 1000'	Date Aug 1, 1950

1R-5-27

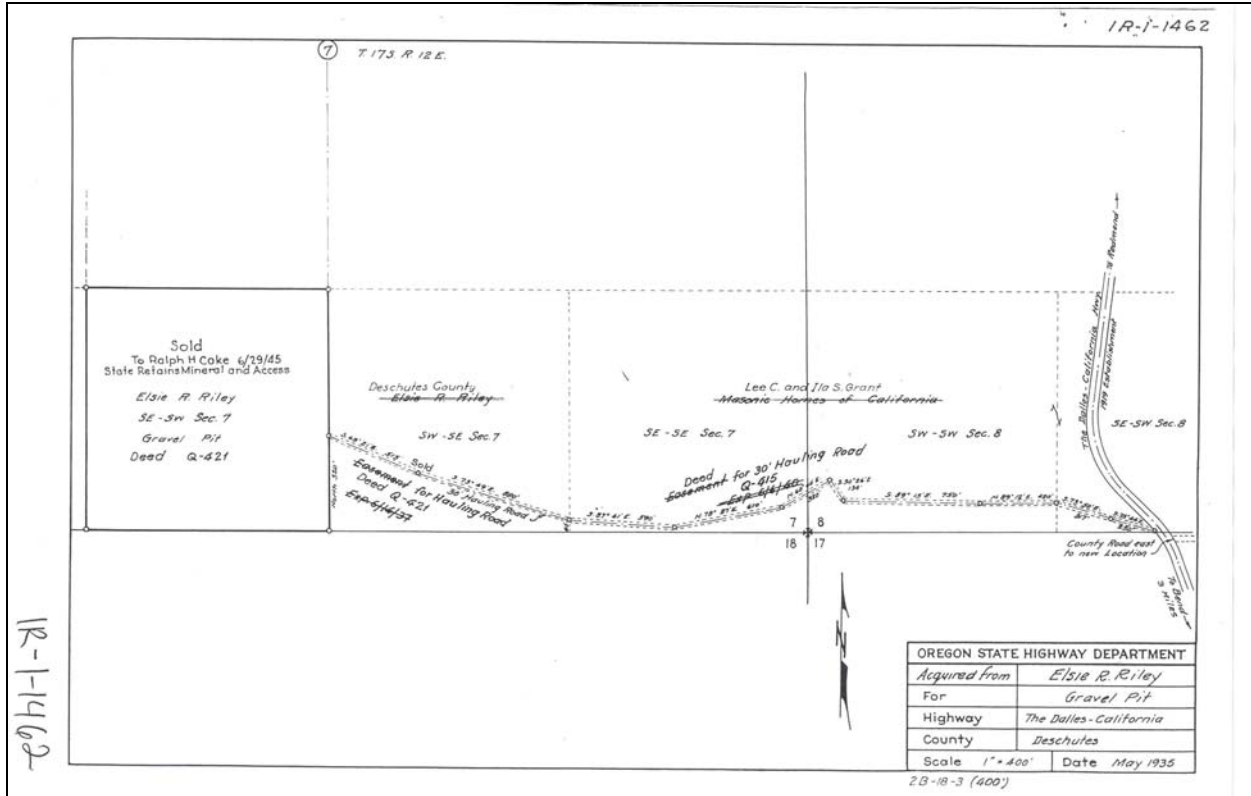


Aerial view of the cinder site located approximately 4 miles north of Highway 20.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes					10	0004	0	17S	12.0E	07
File ID		Source #	Date Visited	Map #		Type of Site				
02123		09-901-4	8/26/1999	1R-1-1462		Raw Land				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 06'33.89000"	121 20'07.45000"	1043	40	NA						
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type	Unit	Color	Weathering		Jointing					
Basalt		NA	NA		NA					
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Unknown			NA	120						
Potentially Significant Site	Why			Open/Closed	Direction					
No	Property appears to be under a private air strip			Closed	NA					
Adjacent Land Use										
Residential										
Remarks										
I did not find this site just west of Bend. I drove down the road to our access point and saw nothing but residential homes. From my maps it appears that we retained mineral rights to this property but have lost the easement.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										



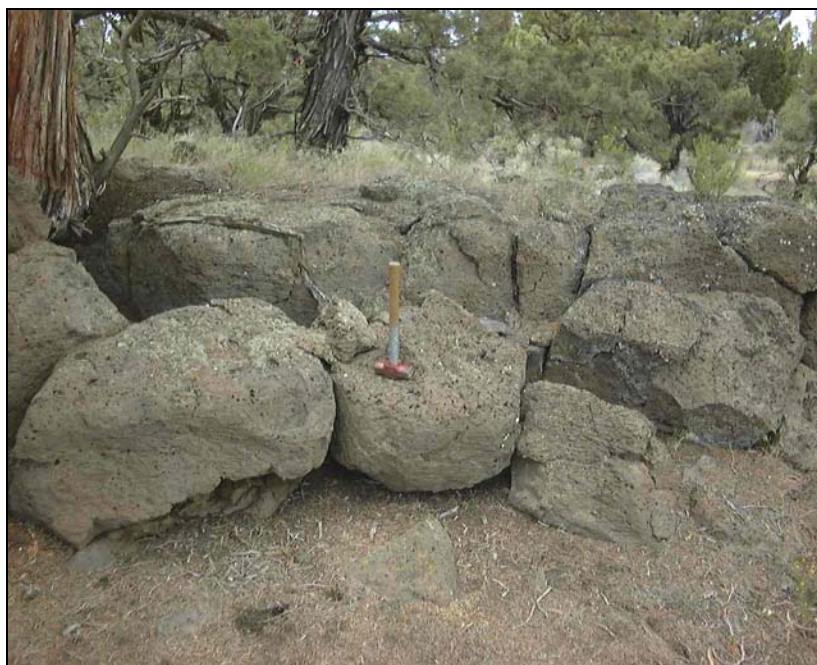
Aerial view of raw land site west of Highway 20.



County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Deschutes				10	0242	0	17S	13.0E	29
File ID		Source #	Date Visited	Map #			Type of Site		
09956		09-902-4	05/30/2000	1R-2-1240			Raw Land		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 03'56.56589"	121 11'36.39786"	1067.699	80	NA					
Comments									
GPS acquired along Alfalfa Market Road at Byram Road.									
Rock Type	Unit	Color		Weathering			Jointing		
Basalt	Qb	Medium Dark Grey (N4)		Fresh			Unknown		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Fair			R3	120					
Potentially Significant Site	Why			Open/Closed	Direction				
No	Leased ground from the BLM			Closed	NA				
Adjacent Land Use									
Rural Farming/Residential									
Remarks									
This site is located north of Alfalfa Market Road. It is raw land with limited exposures to evaluate the rock. The basalt is vesicular and appears to be of fair to poor quality. There is no screening, but room to work. You would need to drill and blast the rock. The terrain is flat. There could be up to 5 feet of overburden in some places. This site is owned by the BLM. Section 27 is raw land with the same lithology and similar area of rural residential/ ranching. We apparently have relinquished section 27 back to the USA.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
Material Use									

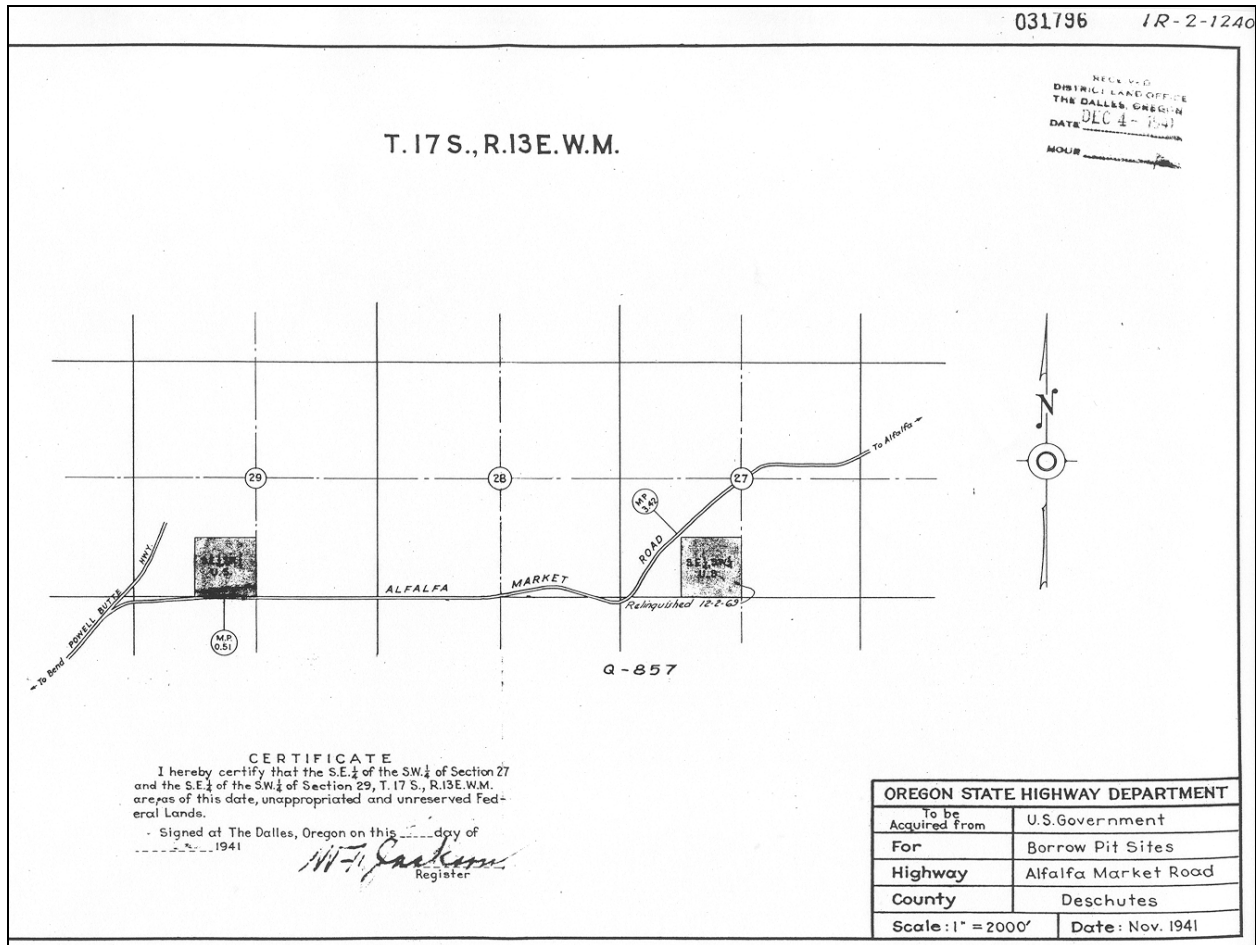
NW

NE



Looking north across Alfalfa Market Road at the undisturbed raw land site.

Close-up view of the vesicular basalt at this location.



Aerial view of the site and the surrounding property in the area.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Harney	ODOT			10	0007	92.6	23S	25.0E	32
File ID		Source #	Date Visited	Map #			Type of Site		
Q0305		13-062-4	05/16/2001	1R-1-1207			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 32'17.10065"	119 44'53.04760"	1342.02	5.62	NA					
Comments									
GPS acquired on site.									
Rock Type	Unit	Color		Weathering			Jointing		
Volcanic Gravel	Qf	NA		NA			Na		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Poor			NA	155					
Potentially Significant Site	Why			Open/Closed	Direction				
No	NA			NA	NA				
Adjacent Land Use									
Open Space									
Remarks									
This site is located north of and adjacent to Highway 20. This ground is used as a stock pile site. The material is composed of 80% sand/silt and 20% volcanic gravel, most of which is very small. The material is colluvium from the hills to the south.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
Material Use									

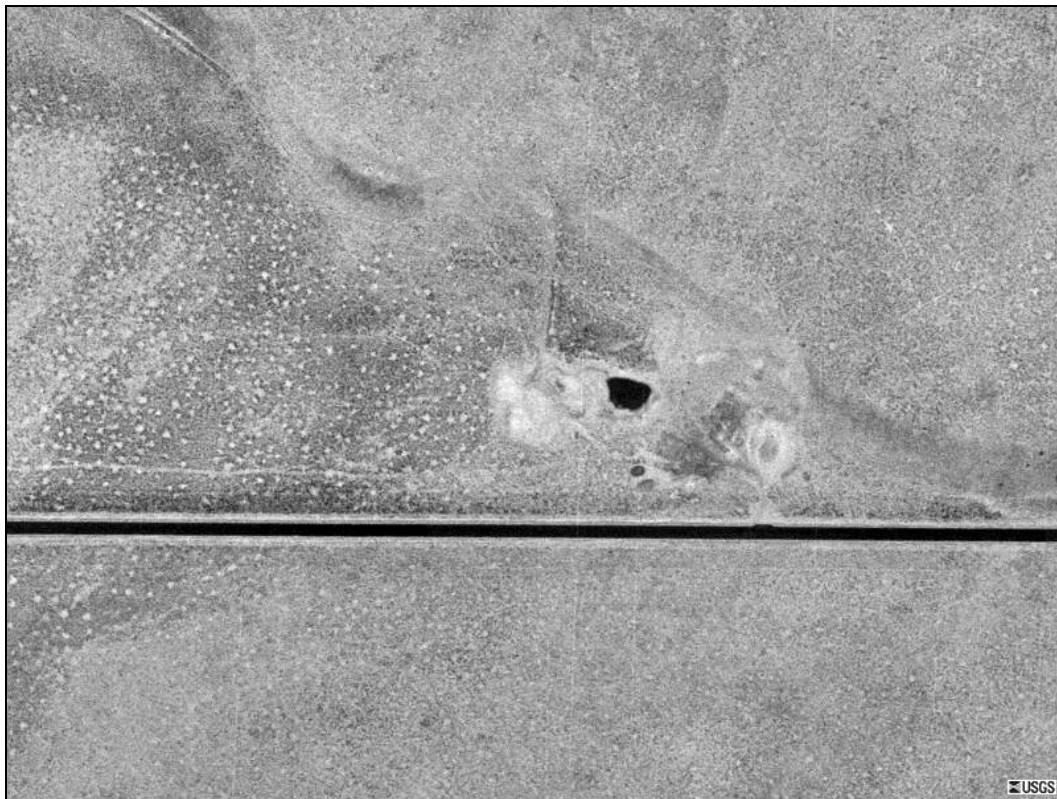
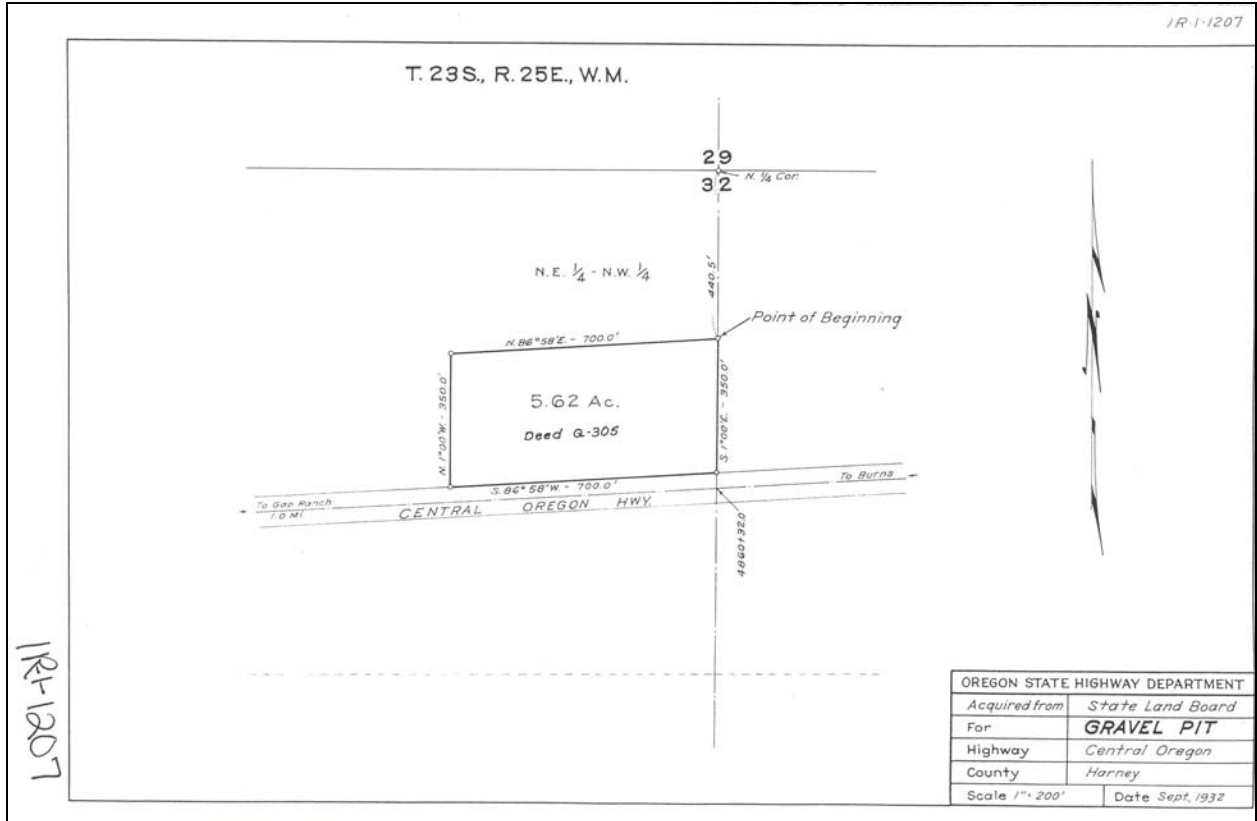
W N E



View to the north at the small borrow/stock pile site north of Highway 20.

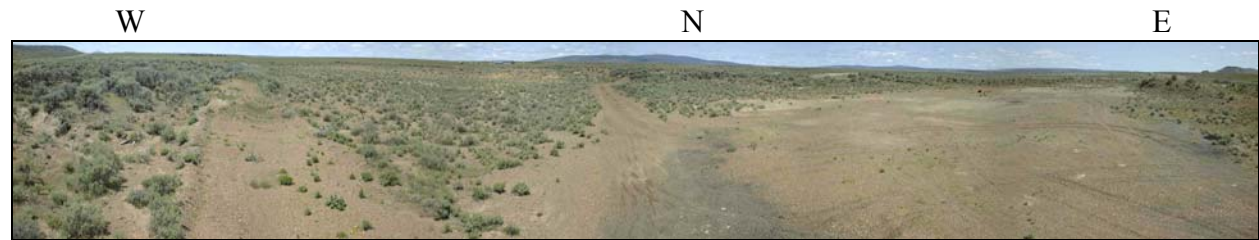


Close-up view of the material at this location with the hammer for scale.



Aerial view of the small borrow site located north of and adjacent to Highway 20.

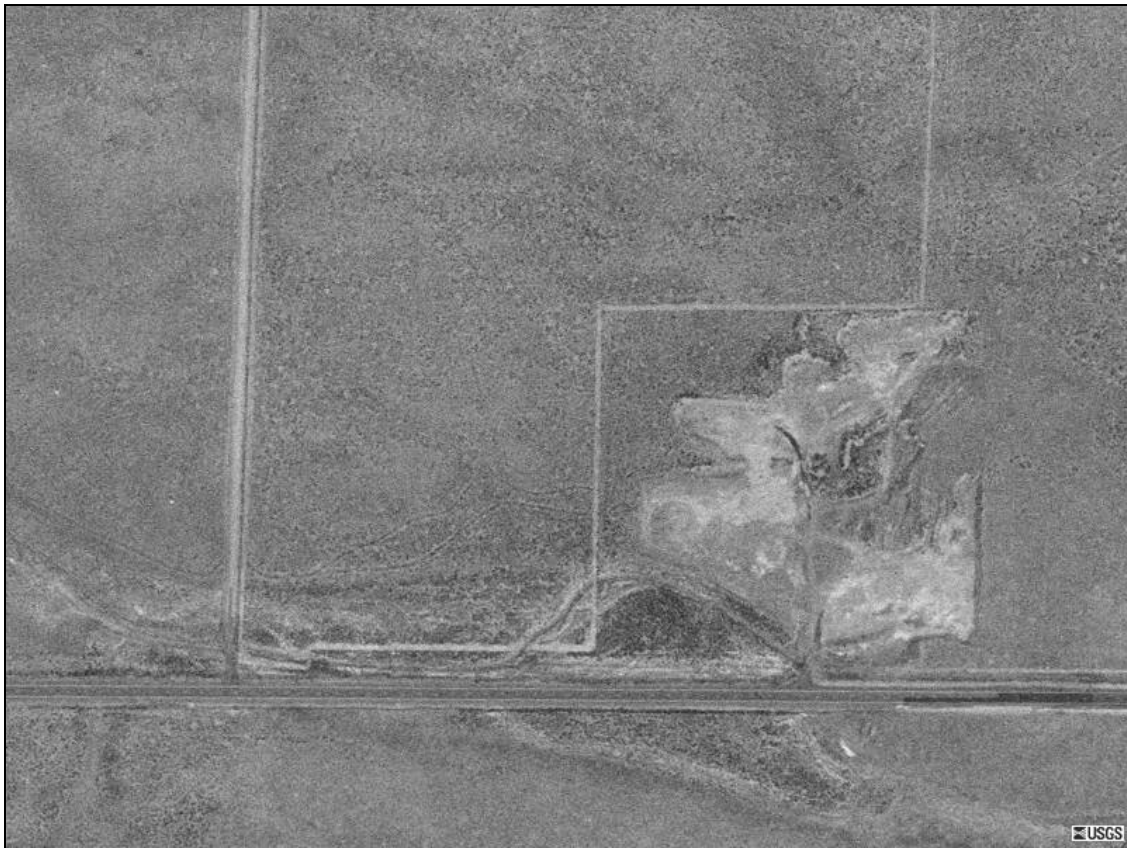
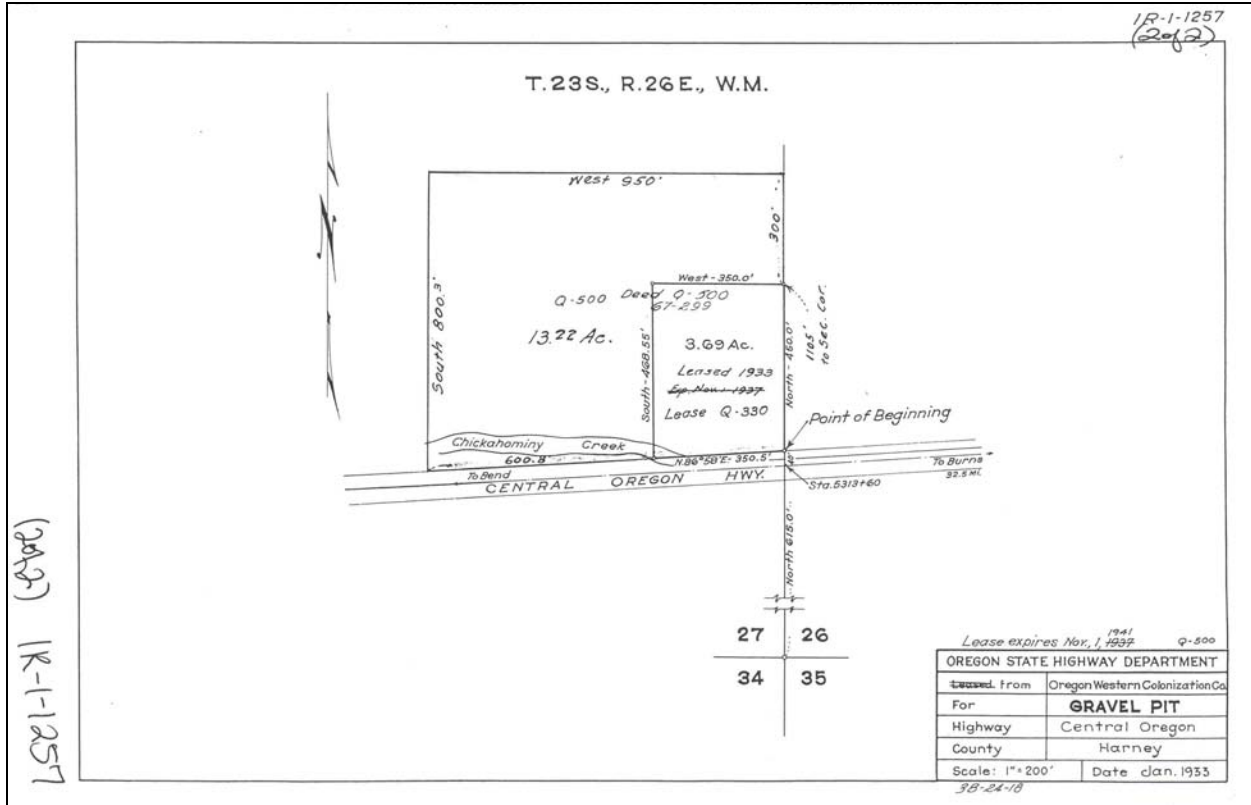
County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Harney	West Riley Site			10	0007	101.2	23S	26.0E	27
File ID		Source #	Date Visited	Map #			Type of Site		
30558		13-085-4	05/16/2001	1R-1-1257			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 32'28.60010"	119 34'38.44559"	1294.124	16.91	<13					
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color		Weathering			Jointing		
Volcanic Gravel	Qal	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Fair			NA	120	242,000	392,040			
Potentially Significant Site	Why			Open/Closed	Direction				
No	NA			Closed	NA				
Adjacent Land Use									
Open Space/ Ranch to the north approximately 300 meters.									
Remarks									
This site is adjacent to and north of Highway 20. The material is composed of small pebbles 75% and sand/silt 25%. The terrain is flat with no screening from the highway. Approximately 165 K removed.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
2.65	2.59	22.2	0.5	1.6			16.1	0.6	
Material Use									
EMULSION (1989)									



View to the north of the borrow site and the terrain north of Highway 20.



Close-up view of the gravel at this location



Aerial view of this moderately sized borrow site along Highway 20.

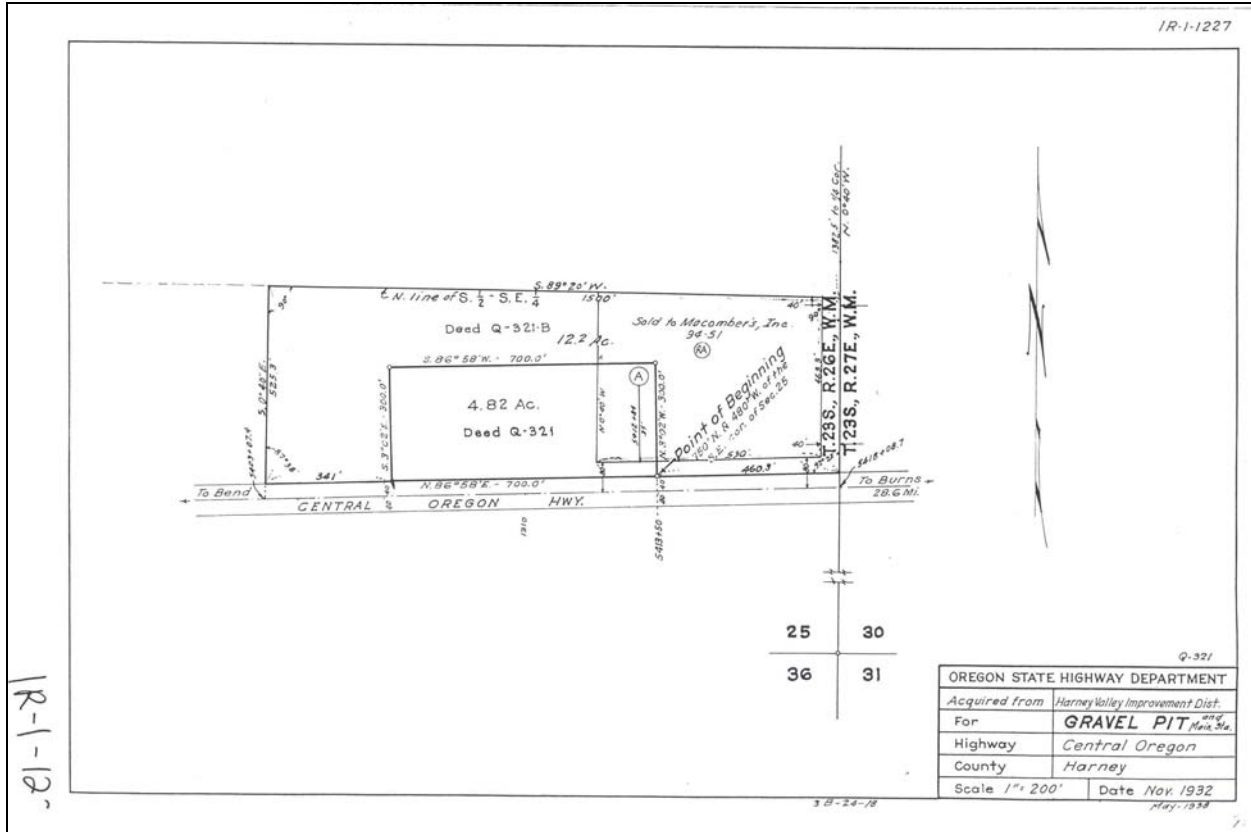
County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Harney	ODOT			10	0007	103	23S	26.0E	25
File ID		Source #	Date Visited	Map #			Type of Site		
00245, 06048		13-086-5	05/16/2001	1R-1-1227			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 32'30.03307"	119 32'22.75299"	1289.939	11.01	<3					
Comments									
GPS acquired along Highway 20 and the site.									
Rock Type	Unit	Color		Weathering			Jointing		
Volcanic Gravel	Qal	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good to Fair			NA	120	80,000	129,600			
Potentially Significant Site	Why			Open/Closed	Direction				
No	NA			Closed	NA				
Adjacent Land Use									
Open Space/ Residence Adjacent to the east									
Remarks									
This site is adjacent to and north of Highway 20. This is a borrow site with water in the pit. (Wetland Potential) The material here is composed of small cobble size and less. The dominant shape is prismatic. There appears to be 40% gravel and 60% sand/silt. The terrain is flat. There is no screening with room to work. Maintenance uses the site for stockpiling and material storage for the highway. A lot of waterfowl on the pond.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
Material Use									



Looking to the west at the borrow site and the pond that is adjacent to the north of Highway 20.



Close-up view of the gravel at the site with the hammer for scale.



1R-1-1227

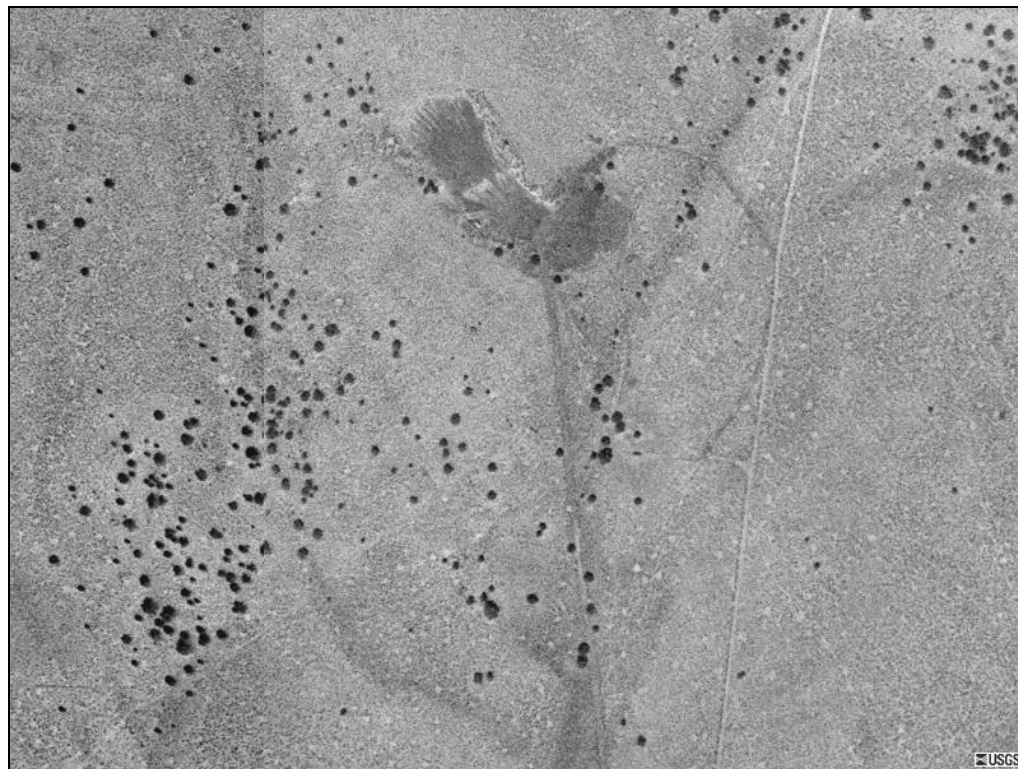
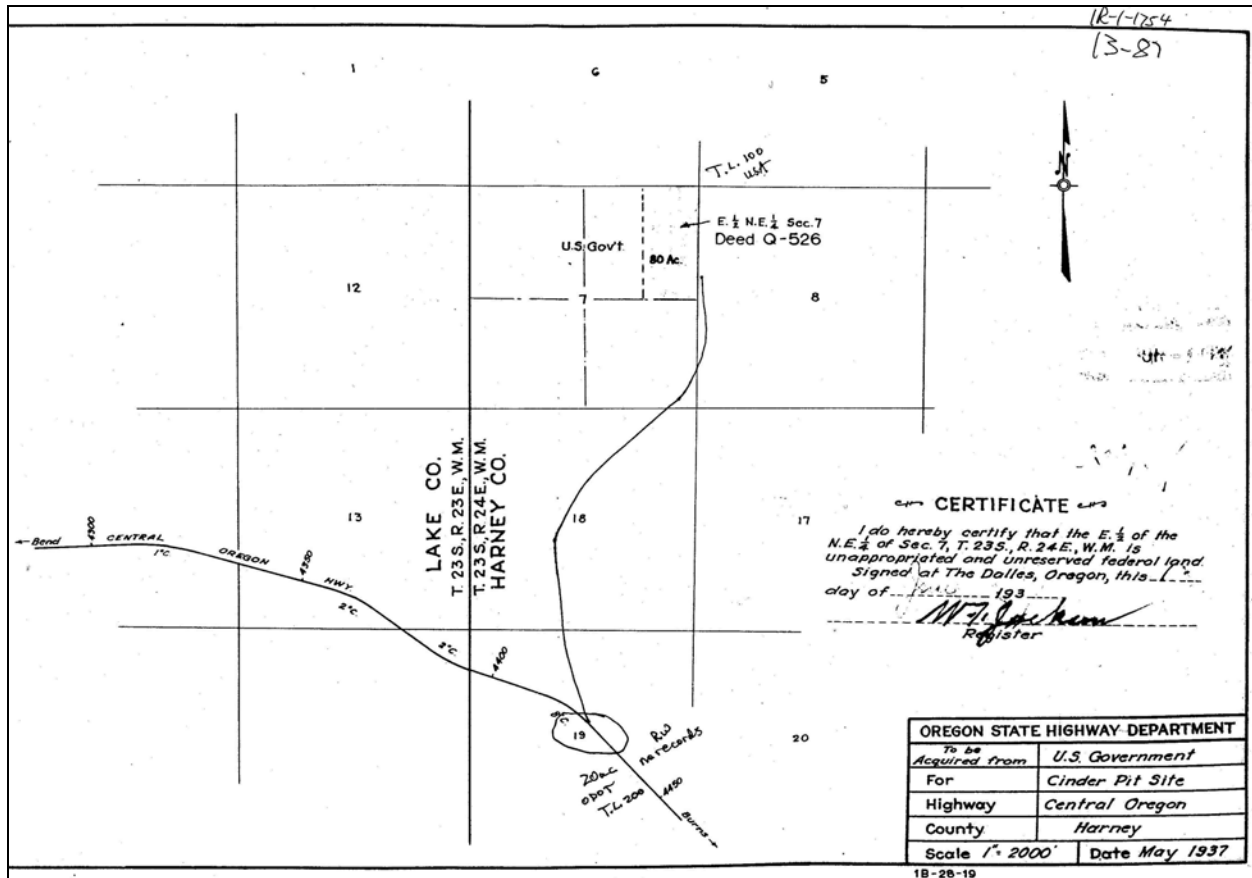


Aerial view of the borrow site and the pond located just north of Highway 20.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Harney	Hatt Butte				10	0007	84.2	23S	24.0E	07
File ID		Source #	Date Visited	Map #		Type of Site				
Q0526		13-087-4	05/22/2001	1R-1-1754		Cinder Pit				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 35'45.98446"	119 52'35.84127"	1460.47	80	<1						
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color		Weathering		Jointing				
Cinder	QTp	NA		NA		NA				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			NA	120	2,000,000	3,240,000				
Potentially Significant Site	Why			Open/Closed	Direction					
No	NA			Closed	NA					
Adjacent Land Use										
Open Space										
Remarks										
This site is approximately 2.5 miles north of Highway 20. This is a small cinder pit at the base of a hill. The material is a good clean scoriaceous basalt that would require minimal screening. Can rip quite easy. There is room to work with good screening from the highway. The terrain is moderate around 15 to 20 degrees. USA ground. Approximately 20,000 removed.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										



Panoramic view of the cinder site north of Highway 20.



Aerial view of the cinder pit and the surrounding area.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Jefferson	Lyle Gap Quarry				10	0004	80.25	09S	14.0E	30
File ID		Source #	Date Visited	Map #		Type of Site				
25521		16-002-4	8/12/1999	1R-5-930		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 45'34.834"	120 59'28.63828"	678.806	37.01	<3	16-0034					
Comments										
GPS acquired in the upper pit.										
Rock Type	Unit	Color		Weathering		Jointing				
Basalt	Tcg	Medium Dark Grey (N4)		Fresh to Slight		Massive to Moderately Fractured				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good to Very Good			R4	158	225,000	479,925				
Potentially Significant Site	Why					Open/Closed	Direction			
Yes	Large acreage, good quality, quantity, and adjacent to Highway 97.					Closed	NA			
Adjacent Land Use										
Open space										
Remarks										
This site is adjacent to and south of Highway 97. The rock is a fine-grain basalt that breaks into very sharp conchoidal fracture patterns. The top 10 feet of this area is a lower quality flow rock that is weathering slight to moderate. There is plenty of room to work here with fair screening from Highway 97. There is little overburden. We would need to drill and blast the rock. The terrain is moderately steep. There are some large stock piles of crushed aggregate here. No gate.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.64	2.69	20.0	4.0	1.0	13.5	7.0	18.8	20.0		
Material Use										
QUARRY ROCK (1999)										

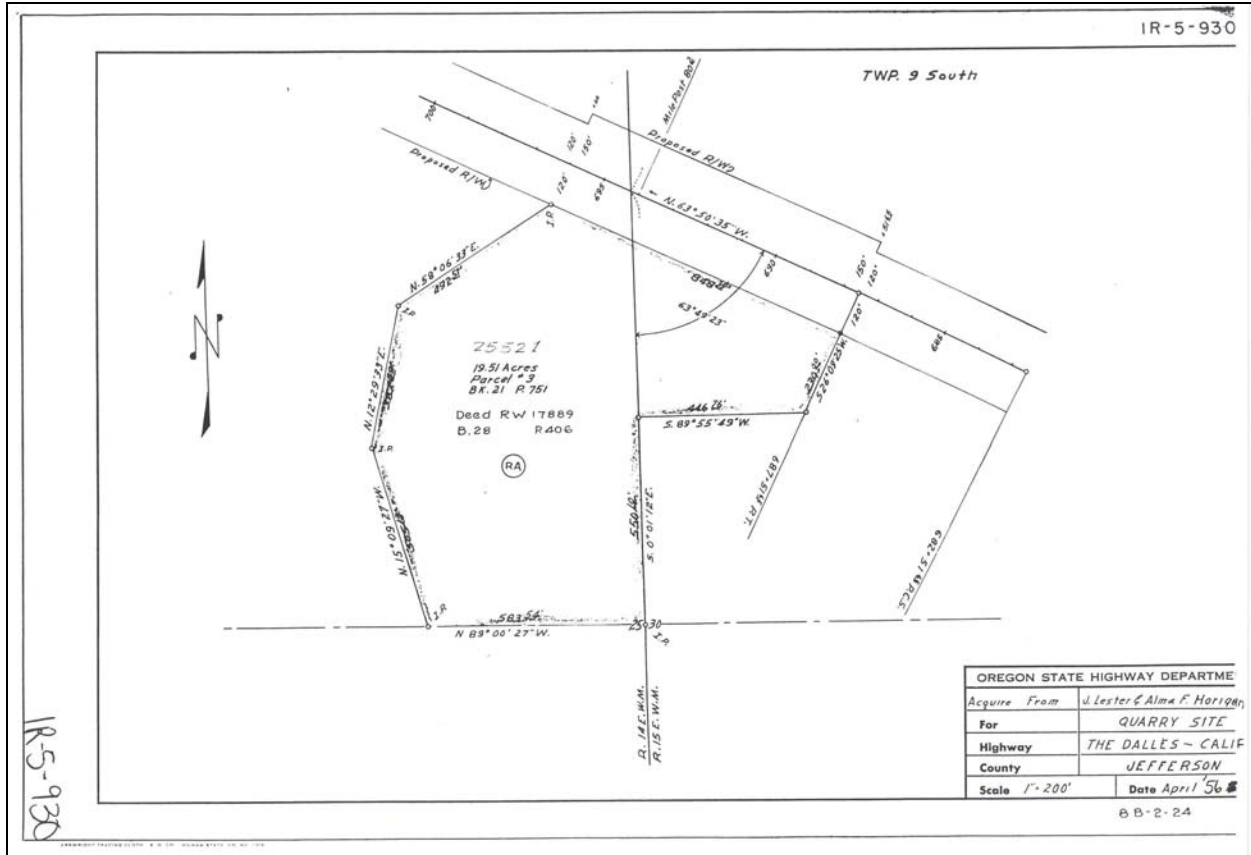
E

W



Looking to the south at the quarry site adjacent to Highway 97.

Close-up view of the massive fracture pattern in the basalt at this location.



Aerial view of the quarry site along Highway 97.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Jefferson	Old Maids Canyon Quarry				10	0004	84.35	09S	14.0E	27
File ID		Source #	Date Visited	Map #		Type of Site				
Q0149		16-003-4	8/13/1999	1R-1-591		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 45'31.54193"	121 02'01.24943"	596.94	40	<2						
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color		Weathering		Jointing				
Basalt	Tcg	Dark Grey (N3)		Fresh		Moderately Fractured				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Very Good to Good			R4	178	200,000	480,600				
Potentially Significant Site	Why			Open/Closed	Direction					
No	Leased property			Closed	NA					
Adjacent Land Use										
Open space/Ranching with the closest residence around 600 meters to the west.										
Remarks										
This site is bisected by the old highway alignment. The rock is a fine-grain basalt. The surrounding terrain is fairly flat, with plenty of room to work, and limited screening. The top flow is a slight to moderately weathered vesicular basalt of marginal value for ACC. You could rip some but most likely would need to drill and blast. There is little to no overburden at this location. This is leased ground from USA.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

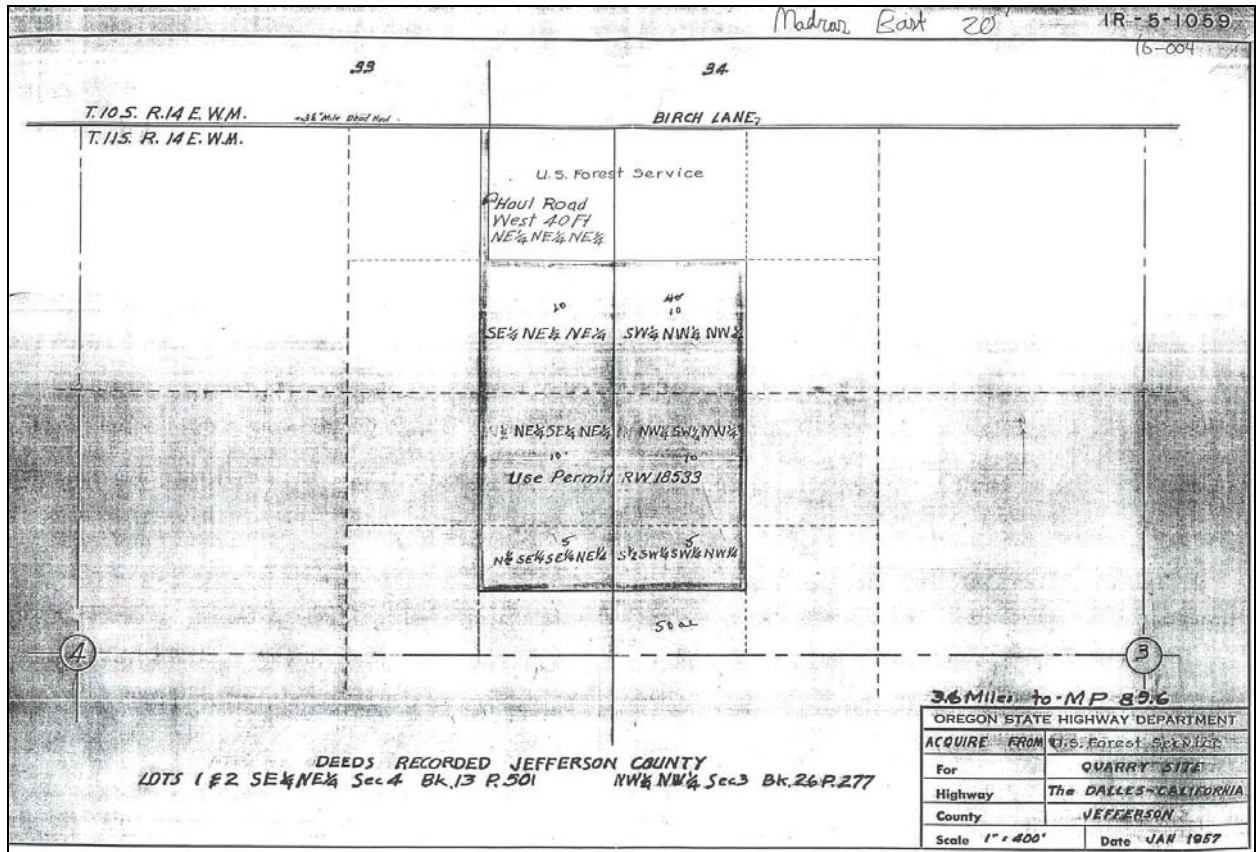
S

NW



Looking to the west at the quarry site along the old highway alignment.

Close-up of the fracture pattern within the basalt at this location.



Aerial view of the quarry site in relation to the surrounding area.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Jefferson				10	0004	99.8	11S	13.0E	27
File ID		Source #	Date Visited	Map #			Type of Site		
08591A		16-006-4	8/18/1999	1R-2-1206			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 34'44.50000"	121 09'21.27000"	793	8.98	NA		16-0035			
Comments									
Lat. and Long. acquired using Terrain Navigator Software									
Rock Type	Unit	Color		Weathering			Jointing		
Ash	Ts	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
NA			NA	120	100,000	162,000			
Potentially Significant Site	Why			Open/Closed	Direction				
No	Quality, Quantity not there.			Closed	NA				
Adjacent Land Use									
Rural Residential adjacent to this location									
Remarks									
This site is adjacent to Highway 97, and is used as a stock pile site. The lithology is sand size ash/pyroclastics and is of limited value for aggregate. There is no gate or fence at this site.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
Material Use									
BASE, OIL									

NE



Looking to the northeast at the borrow site along Highway 97.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Jefferson	Round Butte Cinder Pit				10	0004	98.7	11S	12.0E	13
File ID		Source #	Date Visited	Map #		Type of Site				
37185, 28074		16-007-4	8/18/1999	1R-4-72, 1R-1-162		Cinder Pit				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 36'45.47811"	121 14'17.89139"	911.428	40	<10	16-0021					
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color	Weathering		Jointing					
Cinder	QTp	NA	NA		NA					
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			NA	120	800,000	1,296,000				
Potentially Significant Site	Why			Open/Closed	Direction					
No	USA Ground			Closed	NA					
Adjacent Land Use										
Open space/Residential about 700 meters.										
Remarks										
This site is west of Madras about 5 miles off of Round Butte Drive. The material at this site is used as a sanding source. The quantity amount is calculated, not by the total amount at the site, but by 10 foot lifts per 10 acres. There is plenty of room to work here, and good screening. There are some bench walls that are vertical and very tall. I do not know if we are responsible for them but they are a danger. Part of this ground is leased from the USA. There is some question as to the size of this piece of property. Right of Ways records show 11.8 acres. The County records have a listing of 40 acres.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
		45.4								
Material Use										
SAND AG										

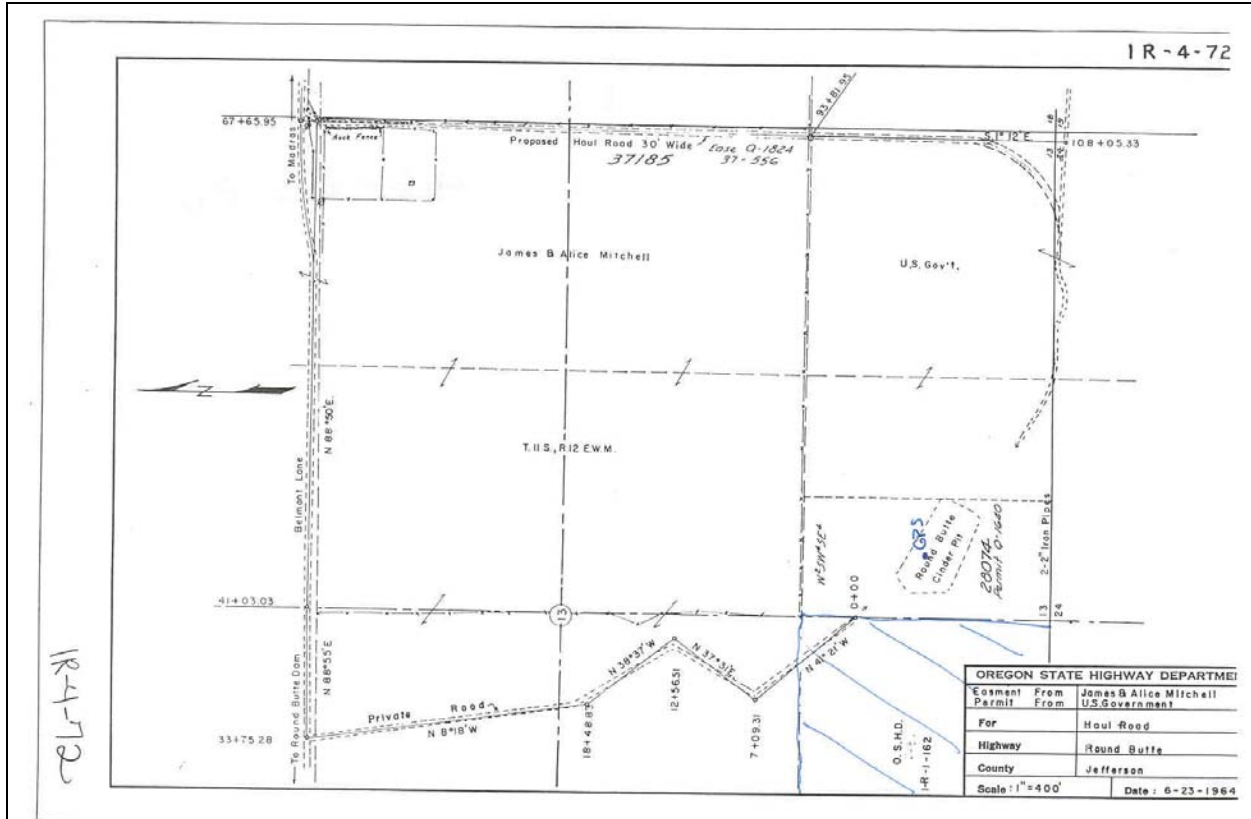
SW

NE



Looking to the west from one of the pits on the west flank of Round Butte.

Looking to the south from the access road up to Round Butte.



Aerial view of the Round Butte cinder pit and the surrounding area.
 The access road is in the upper center of the image.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Jefferson	McPheeters Quarry			10	0004	111.08	13S	13.0E	28
File ID		Source #	Date Visited	Map #			Type of Site		
11321, Q0941		16-012-4	8/18/1999	1R-2-1431, 1R-2-1448			Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 24'24.99643"	121 10'12.19317"	859.985	13.34	<3		16-0025			
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color			Weathering		Jointing		
Basalt	QTp/Tca	Medium Dark Grey (N4)			Fresh to Slight		Highly Fractured		
Quality			Hardness	lbs./cu ft.	Reserve (cy)		Reserve (Tons)		
Good			R4	172	25,000		58,050		
Potentially Significant Site	Why	Open/Closed		Direction					
No	Possible leased ground.	Closed		To the southwest approximately 600 meters is the Crooked River.					
Adjacent Land Use									
Farming/Residents to the north approximately 400 meters.									
Remarks									
This site is approximately 2 miles to the east of Highway 97 on Dodson County road. This site has been reclaimed and has no hard rock exposures. From the float at this site it looks like a good fine-grain basalt. There is room to work and limited screening here. The overburden can be up to 5 feet thick. There are some pyroclastics within this site of undetermined size. There is no fence or gate here and the local people are using the ground for their own purposes. There is some confusion over property size and ownership here. Our records show USA ownership, the County records show ODOT as the owners. This site appears to be near depletion.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
2.67	2.77	18.2	8.2	1.0	11.9	0.2	10.7	0.2	
Material Use									
QUARRY ROCK (1995)									

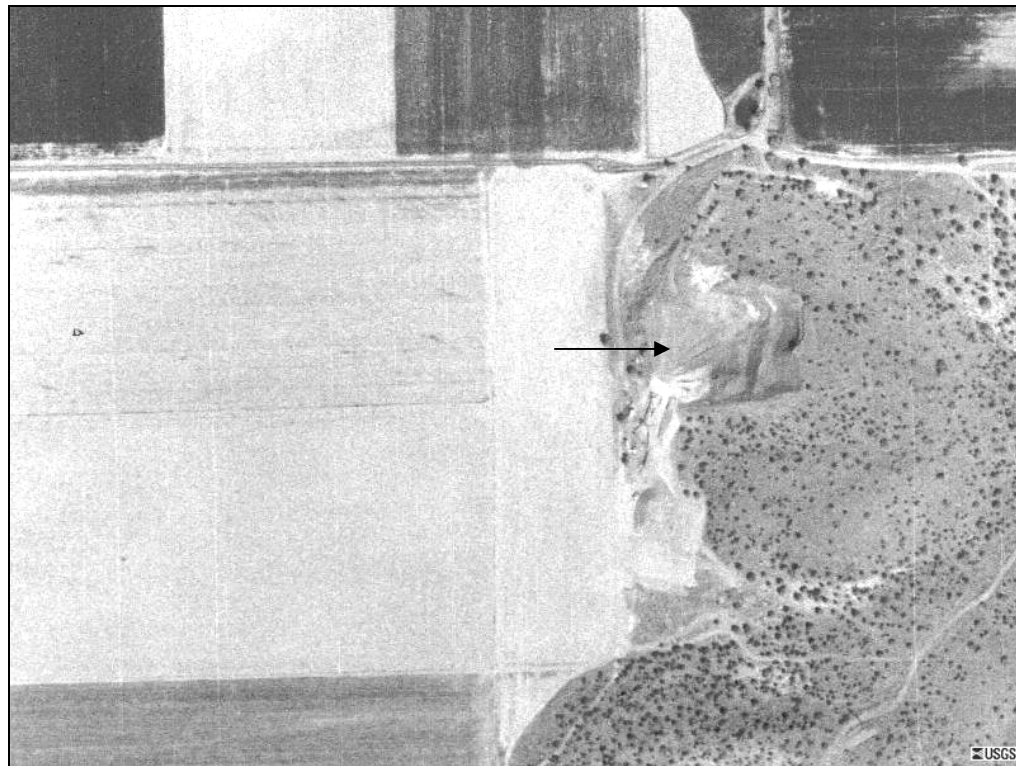
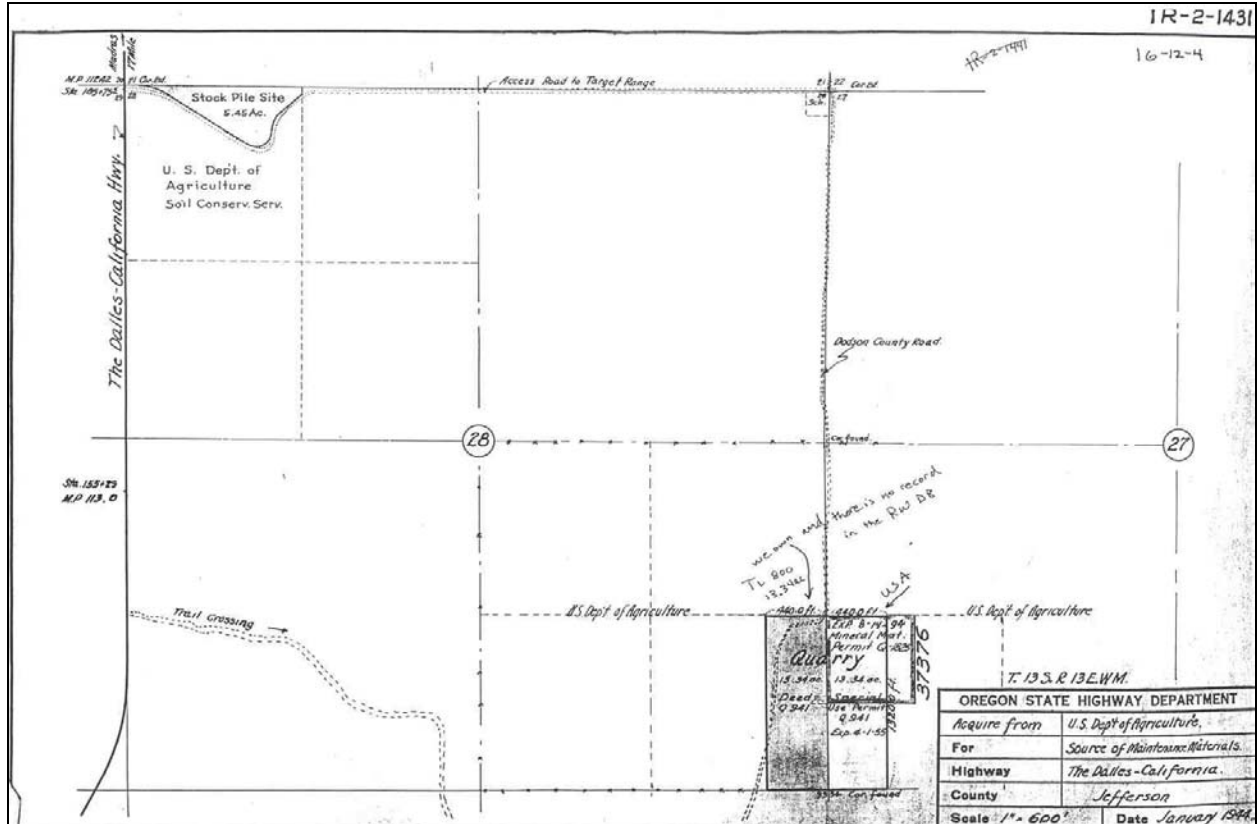
N

S



Looking to the east at the reclaimed quarry site.

Close-up view of the basalt at this location with the hammer for scale.



Aerial view of the quarry site and the past disturbance.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Jefferson					10	0016	90.4	13S	09.0E	32
File ID		Source #	Date Visited	Map #		Type of Site				
36854, 29155		16-013-4	05/01/2001	1R-5-1236		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 23'54.59666"	121 41'11.73780"	1015.564	17	NA						
Comments										
GPS acquired along Forest Service Road.										
Rock Type	Unit	Color		Weathering			Jointing			
Volcanic	Qs	NA		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair			NA	120	160,000	259,200				
Potentially Significant Site	Why			Open/Closed	Direction					
No	USA Ground			Closed	Seasonal creek bisects the ground					
Adjacent Land Use										
Open Space										
Remarks										
This site is located approximately 300 feet south of Highway 20/126. The ground here is flat and the material is composed of volcanic gravel and soils. There can be up to 40% gravel that would be small boulders (5%), cobbles (30%) and pebbles (5%) with the remainder (60%) in sand/silt size range. There is room to work and good screening from the highway. The location has 80 foot pines on the site.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
		25.4								
Material Use										

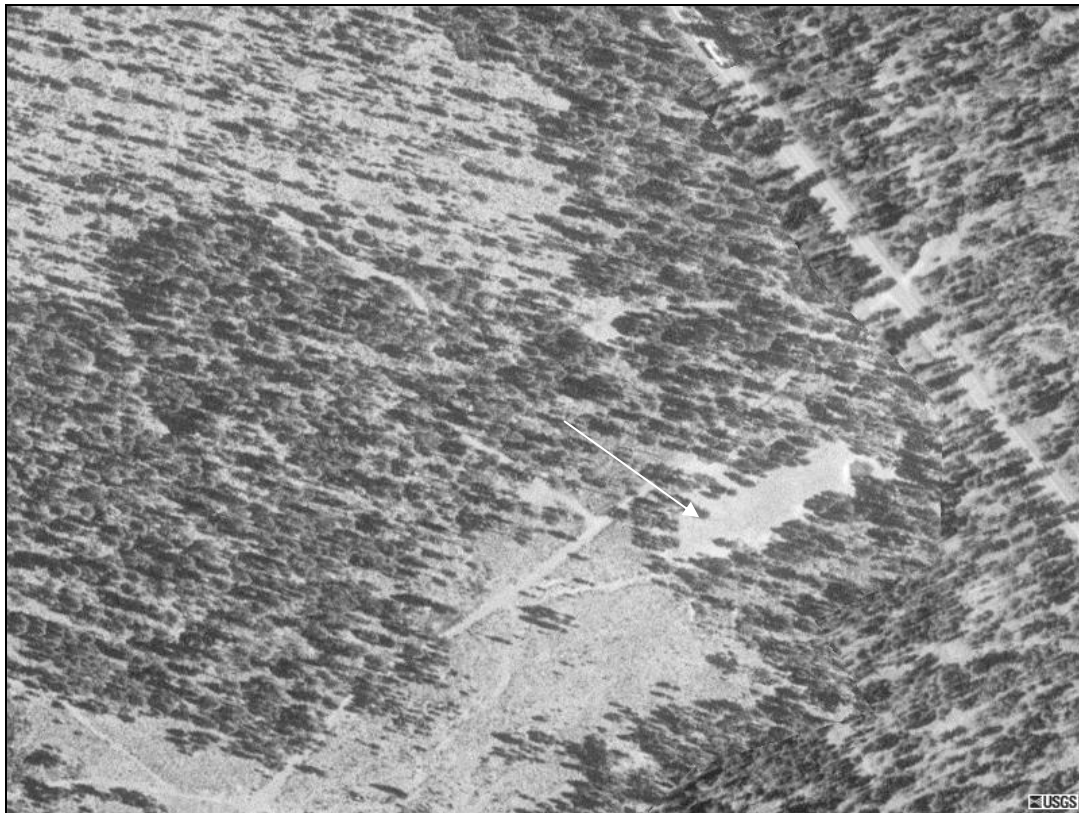
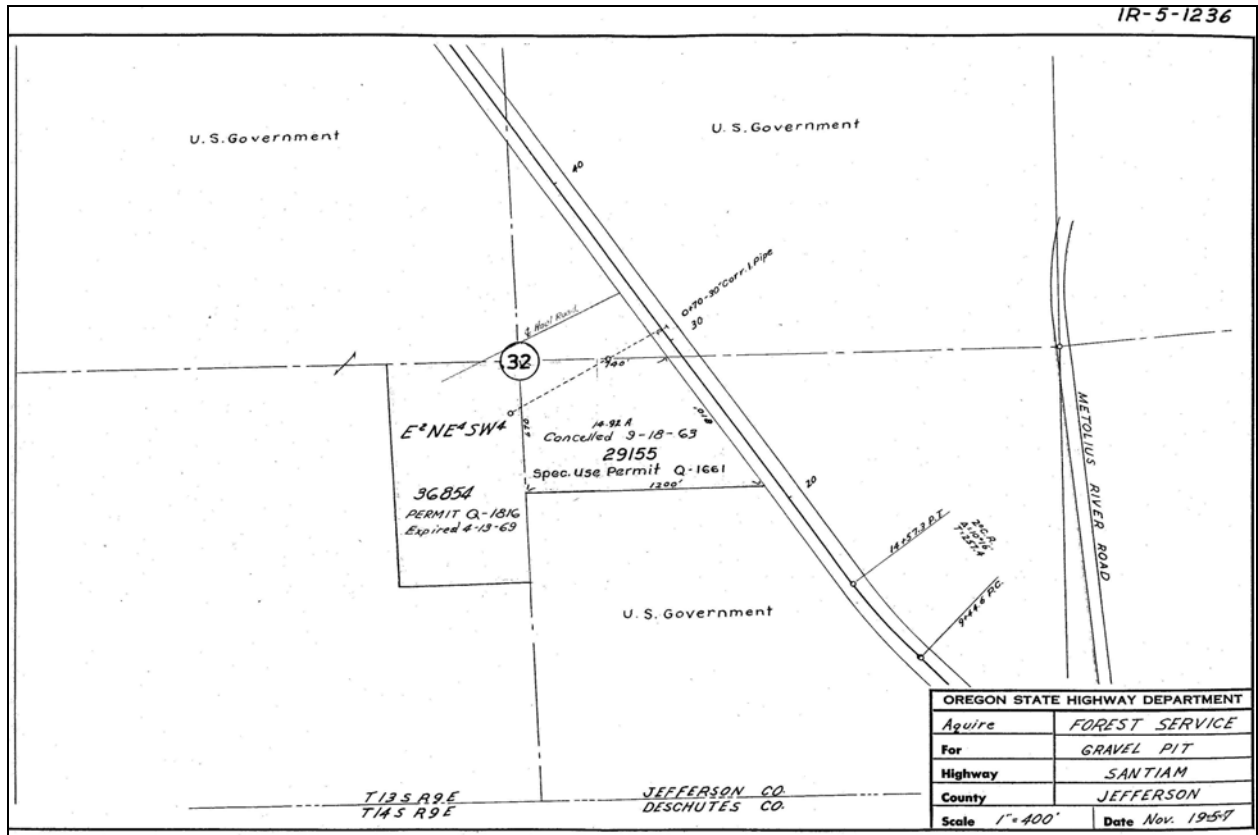
N

S



Panoramic view of the gravel site located just south of Highway 20/22/126. Black Butte is the hill in the background to the left side of the image.

Close-up view of the gravel located at this site.

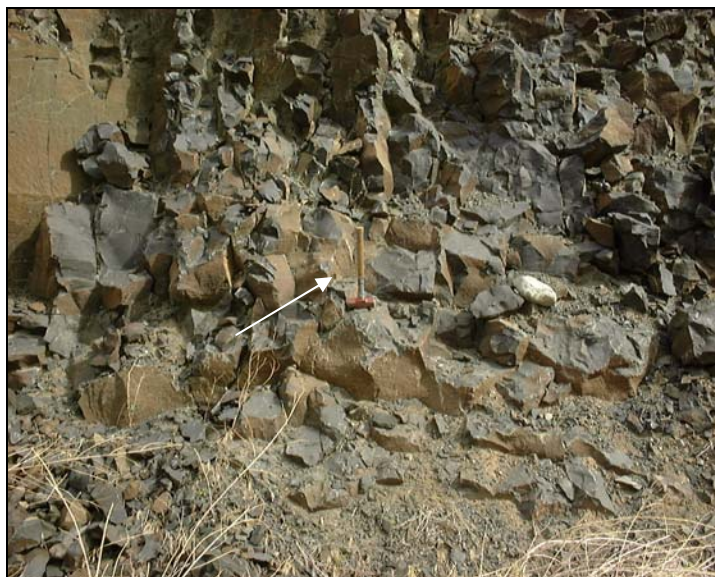
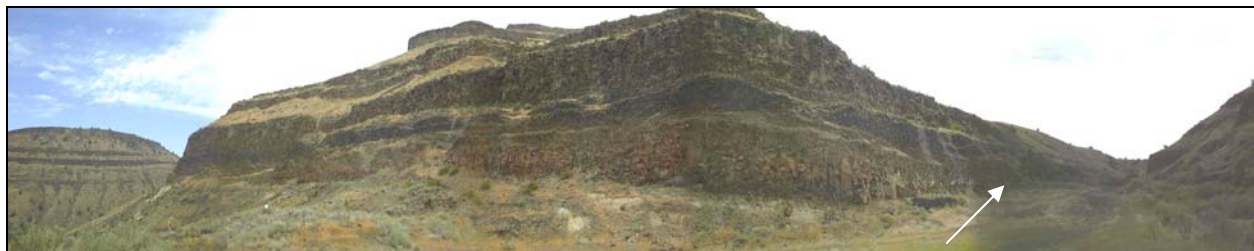


Aerial view of the gravel site in relation to the highway in the upper right corner.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Jefferson				10	0053	105.89	09S	13.0E	31
File ID		Source #	Date Visited	Map #			Type of Site		
		16-015-4	8/18/1999	1R-3-1635, 1R-2-871			Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 45'00.53358"	121 13'20.3836"	439.728	40	<8		16-0018			
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color		Weathering			Jointing		
Basalt/Pyroclastics	Tcg/Ts	Medium Dark Grey (N4)		Fresh			Massive to Highly Fractured		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good to Very Good			R4	172	400,000	928,800			
Potentially Significant Site	Why			Open/Closed	Direction				
Yes	Good location along Highway 26, good quality, and large quantity.			Closed	The Deschutes River is to the west across Highway 26 about 200 meters.				
Adjacent Land Use									
Open space/Farming above the top of the Canyon walls.									
Remarks									
This site is located adjacent to and east of Highway 26. The rock is a fine-grain basalt with some vesicular flows intermixed. This basalt sits atop a lapilli tuff. The best location to remove the good aggregate would be at the eastern end of the canyon. There is fair screening from Highway 26, with room to work. There is no overburden but very steep to vertical slopes. The past quarry work comprised of removing some of the talus slope. This quarry site needs a good plan for removal of material now and in the future. This part of the site is owned by ODOT. This site is composed of two parcels of ground. The first is property we own on tax lot 100 for a total acreage of 39.70 per assessors office. The other property adjacent to ours is a 40 acre site owned by USA on tax lot 200. There is a small drainage channel within this canyon that funnels irrigated water to the Deschutes River. This should be addressed for future work projects here.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.812	18.3	4.0	1.0	12.2	6.0	25.2	13.0	
Material Use									
QUARRY ROCK (1999)									

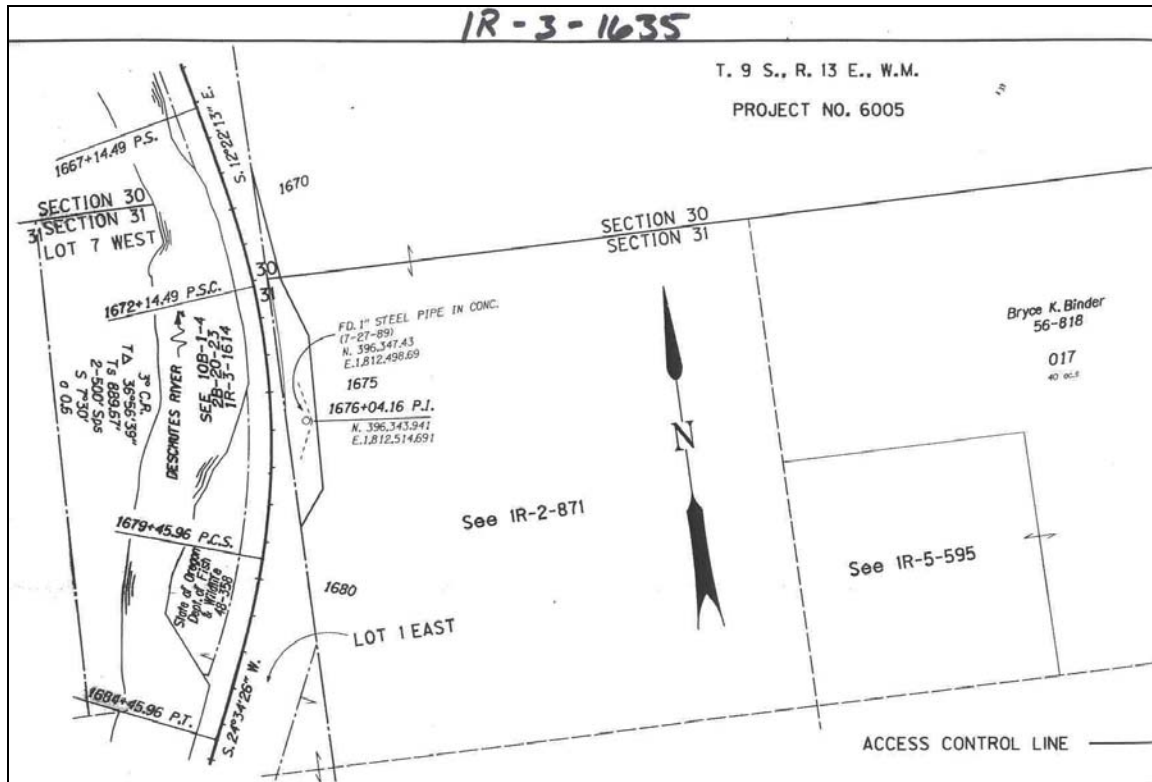
W

E



Looking north at the very tall cliff at this quarry site. The close-up image was acquired at the eastern (arrow) portion of the site

Close-up view of the jointing pattern within the basalt at this location.



Aerial view of the quarry site in relation to the surrounding property.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Jefferson					10	0053	110.66	10S	13.0E	08
File ID		Source #	Date Visited	Map #		Type of Site				
15060		16-017-4	8/12/1999	1R-2-1909		Road Cut				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 43'11.75884"	121 11'46.63434"	685.268	10.81	<1						
Comments										
GPS acquired south of the roadcut across Highway 26 at a turn-out.										
Rock Type	Unit	Color		Weathering			Jointing			
Basalt	Tc	Medium Dark Grey (N4)		Fresh to Slight			Moderately Fractured			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			R4	180						
Potentially Significant Site	Why		Open/Closed	Direction						
No	Poor location for any quarry work now.		Closed	To the south across Highway 26 and down a steep canyon approximately 200 meters is Cambell Creek.						
Adjacent Land Use										
Farming/Residences to the north approximately 300 meters.										
Remarks										
This site is adjacent to and north of Highway 26. The rock is a fine-grain moderately fractured basalt. There is no room to work and no screening from the highway here. This location is more of a road cut than a rock quarry. The top flow that is visible is of poor quality. It has a variable thickness up to 10 feet. There is a County Road to the north of this site that would be a barrier for pit expansion. There could be up to 200,000 cubic yards of material here if we wish to realign the road.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.83			2.2				13.6	0.3		
Material Use										
AC (1990)										

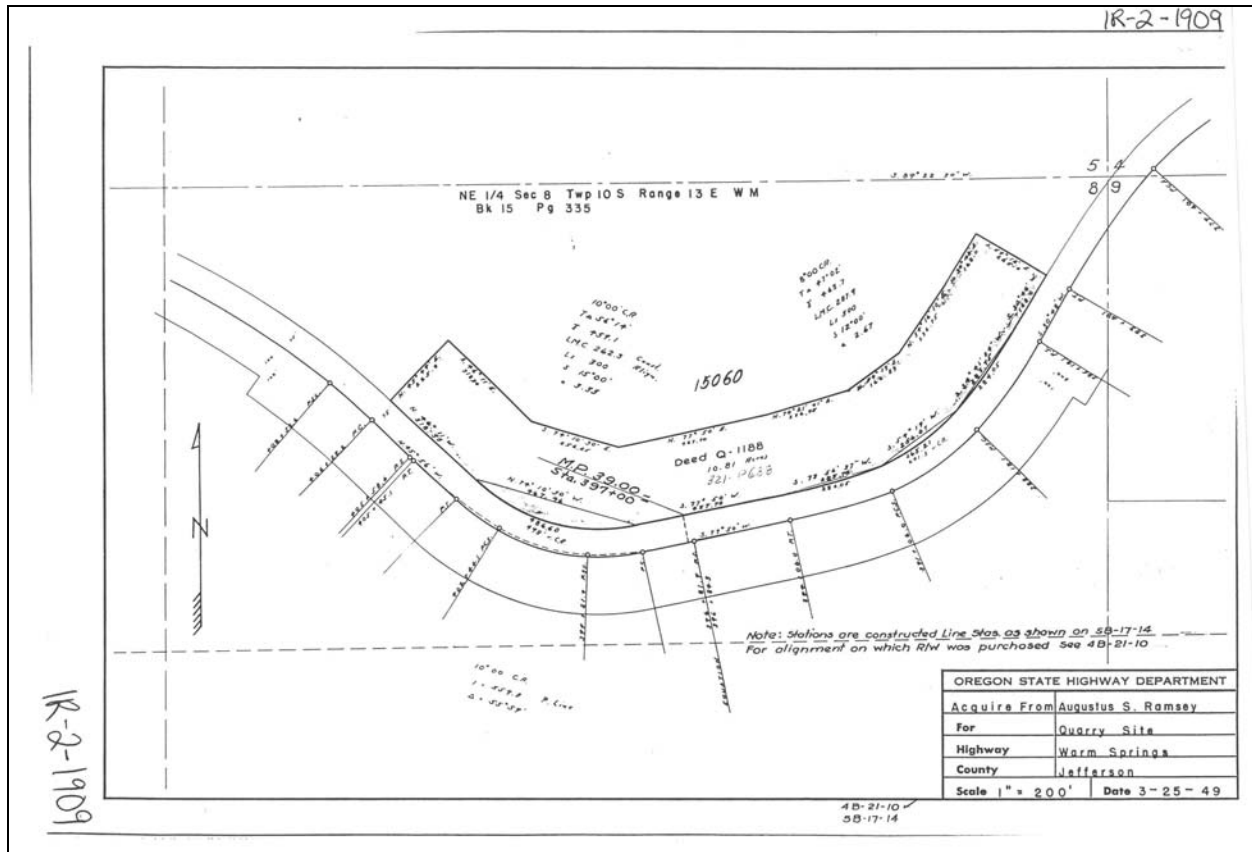
NW

NE



Looking to the north from Highway 26 at the small quarry. Note the radiating columnar jointing.

Close-up view of the fracture pattern at this site.



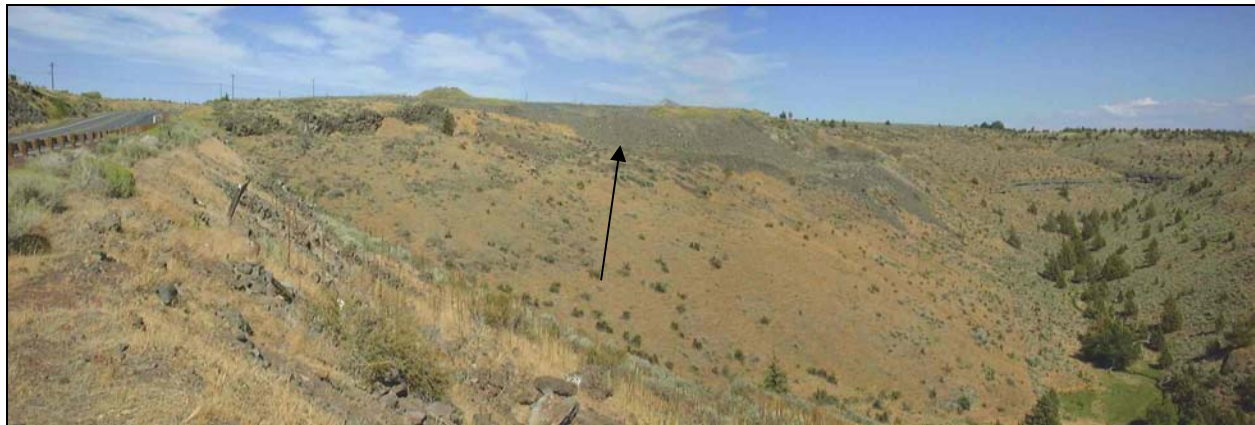
1R-2-1909



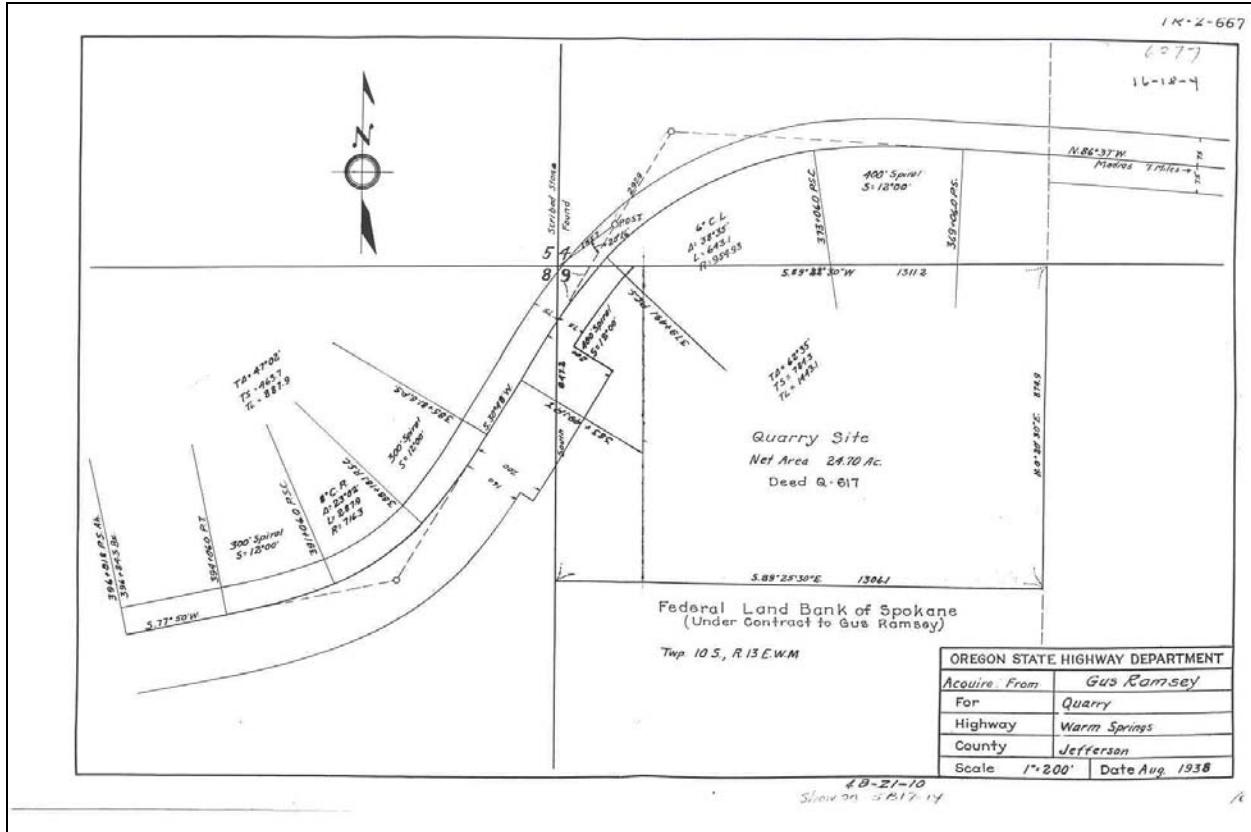
Aerial view of the small pit that is adjacent to and north of Highway 26.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Jefferson				10	0053	110.66	10S	13.0E	09
File ID		Source #	Date Visited	Map #			Type of Site		
06227		16-018-4	8/12/1999	1R-2-667			Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 43'16.46002"	121 11'29.44997"	702.696	25.87	<1					
Comments									
GPS acquired on the second bench south of the highway.									
Rock Type	Unit	Color		Weathering			Jointing		
Basalt	Tc	Medium Dark Grey (N4)		Fresh to Slight			Moderate to Highly Fractured		
Quality			Hardness	lbs./cu ft.	Reserve (cy)		Reserve (Tons)		
Good			R4	175					
Potentially Significant Site	Why				Open/Closed	Direction			
No	Good location and quality but quantity does not meet the classification of aggregate sites for Goal 5.				Closed	To the south about 200 meters is Cambell Creek.			
Adjacent Land Use									
Farming/Open space									
Remarks									
This site is located adjacent to and south of Highway 26. This site is used as a stock pile/waste site now. Much of the material/waste rock has been pushed over the edge of the cliff to the canyon. The canyon area to the south of this site is very steep terrain (30 to 35 degrees). There is evidence of past work here along the canyon wall. Unknown amounts have been removed from here. The top 15 feet of exposed rock is marginal at best. There is plenty of room to work here but no screening from the highway. This site could be used for aggregate production from 16-017-4 if the need arose.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.34	36.60			22.48	.8			
Material Use									
BASE, OIL; (1971)									

NE



Looking to the northeast at the quarry site along Highway 26.



Aerial view of the quarry site along the highway.

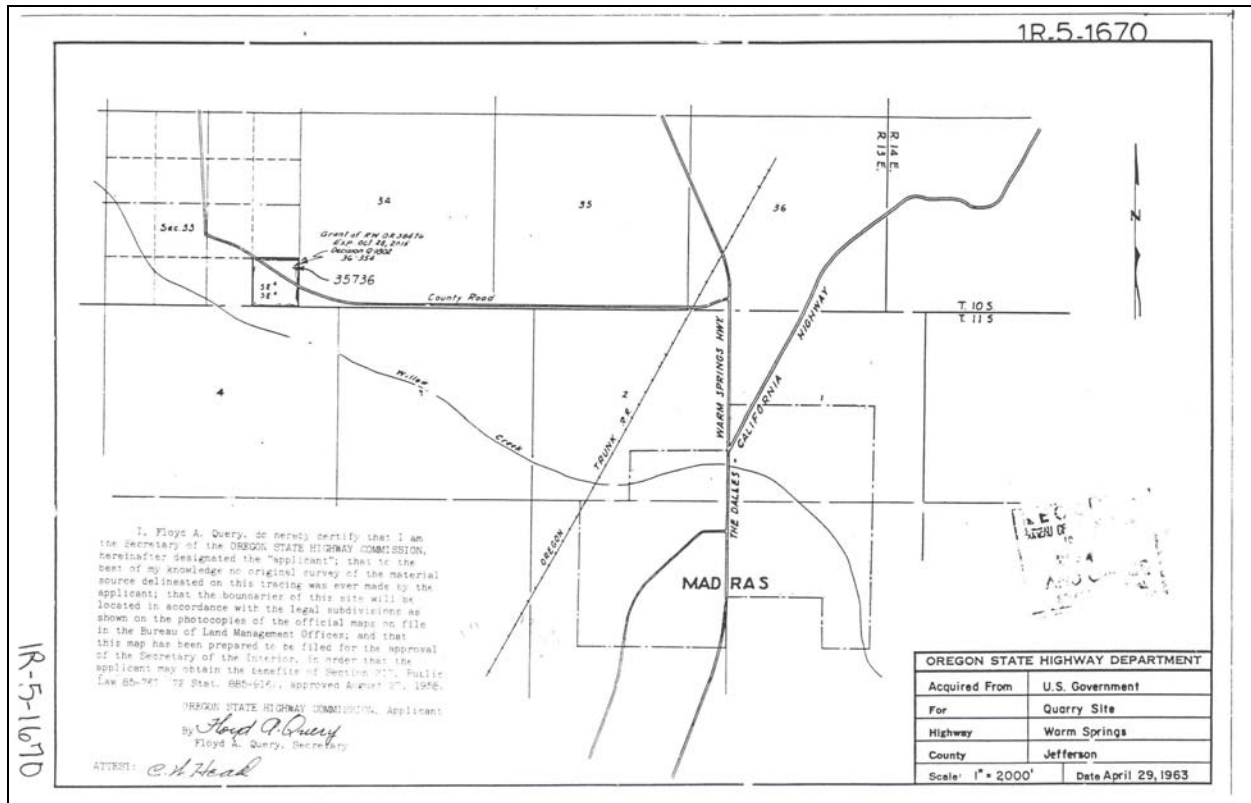
County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Jefferson					10	0053	117	10S	13.0E	33
File ID		Source #	Date Visited		Map #			Type of Site		
35736		16-020-4	05/01/2001		1R-5-1670			Raw Land		
Latitude		Longitude		Elev. (m)	Acreage	Pit Size		DOGAMI Permit #		
44 39'10.61000"		121 10'32.78000"		731	40	NA				
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type		Unit	Color		Weathering			Jointing		
Basalt		Tob	NA		NA			NA		
Quality				Hardness	lbs./cu ft.		Reserve (cy)	Reserve (Tons)		
Good to Fair				NA	150		400,000	810,000		
Potentially Significant Site		Why			Open/Closed		Direction			
No		USA Ground			Closed		South approximately 700 meters			
Adjacent Land Use										
Private Quarry/ Airport/ Open Space										
Remarks										
This site is west of Highway 26 about 2 miles. This site occupies a deep canyon that is used as a dumping ground. This is raw land with no prior disturbance. The rock here is a basalt of variable quality. There is room to work with some screening. The terrain is steep (35+ degrees). You would need to drill and blast at this location.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.469	2.549	23.4	6.0	7.0	4.2	1.2	4.8	1.1		
Material Use										
QUARRY ROCK (1997)										

NE

S



Panoramic view of the raw land at this site and the canyon to the right side of the image.



Aerial view of the raw land site located west of Madras OR.
 A Private quarry is located adjacent to the east and a creek is at the bottom of the canyon.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Jefferson	Dice Rock Quarry				10	0360	15.7	13S	14.0E	35
File ID		Source #	Date Visited	Map #		Type of Site				
12756		16-022-4	8/18/1999	1R-2-1623		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 23'44.82477"	121 00'34.88991"	1030.085	87.03	<2	16-0036					
Comments										
GPS acquired at the easement and Highway 26, and in the pit.										
Rock Type	Unit	Color		Weathering		Jointing				
Basalt	Tba	Medium Dark Grey (N4)		Fresh to Slight		Highly to Moderately Fractured				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Very Good			R4	186						
Potentially Significant Site	Why			Open/Closed	Direction					
No	Leased property			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This site is owned by USA and is a couple of miles to the south and up in elevation from Highway 26. The rock is a fine-grain, highly fractured basalt. There is ample room to work and good screening. There is little to no overburden on fairly flat terrain. You would need to drill and blast. The ground is a special use permit from USA and would need an environmental assessment. There is well over a million cubic yards of good aggregate here. There has been about 55,000 cubic yards removed to date. Latitude and Longitude for the access point is: 44 24 50.50423, 121 00 00.41060.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

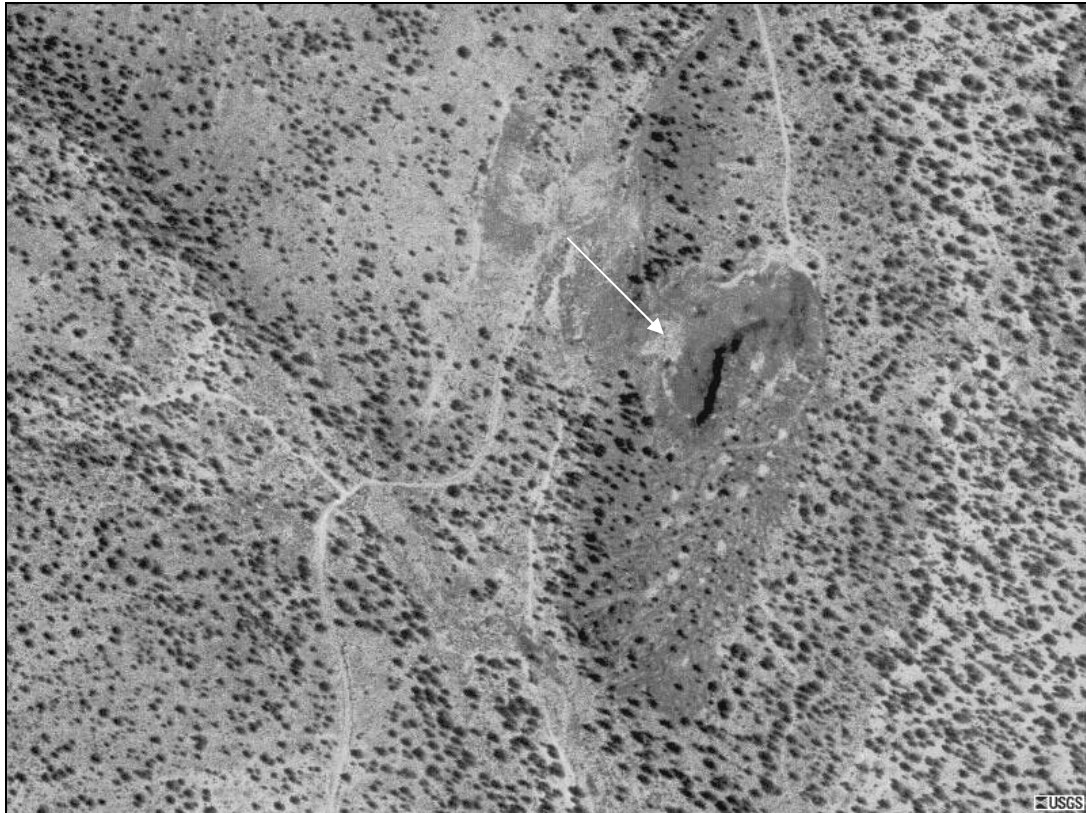
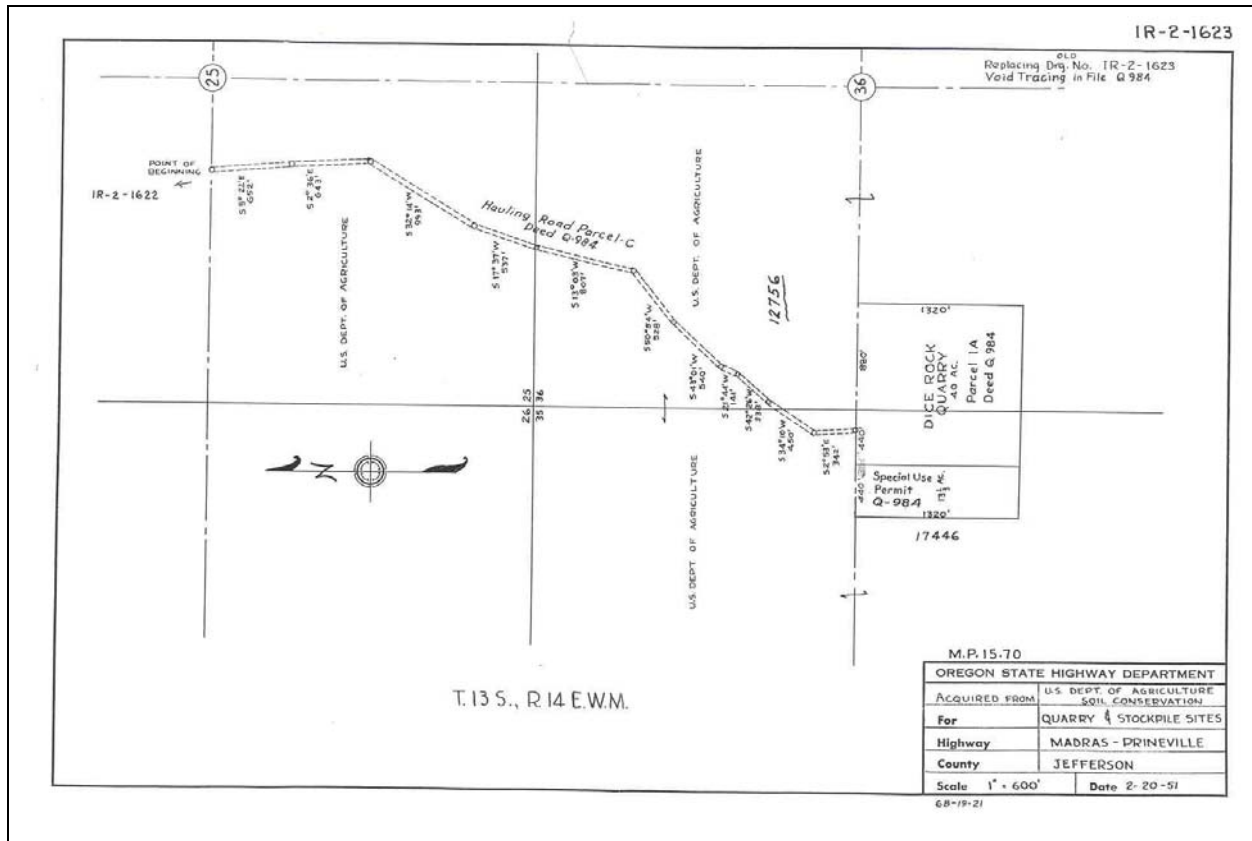
NE

S



Looking to the southeast at the quarry site on Forest Service ground.

Close-up view of the jointing pattern within the basalt at this location.



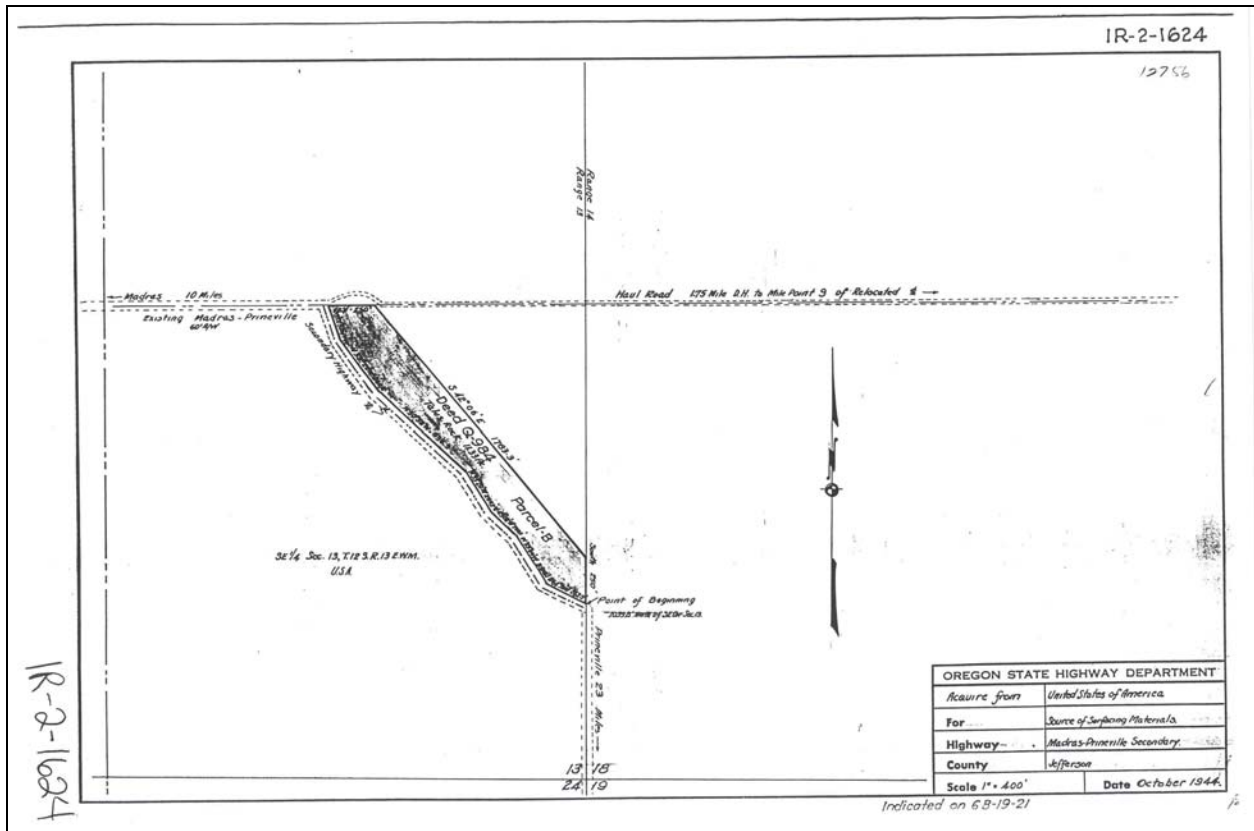
Aerial view of the quarry site located at the top of this hill.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Jefferson	Red Rock Quarry				10	0360	6.35	12S	13.0E	13
File ID		Source #	Date Visited	Map #		Type of Site				
12756		16-023-4	8/19/1999	1R-2-1624		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 31'25.17853"	121 06'37.69324"	869.915	11.33	<1						
Comments										
GPS acquired along the County road.										
Rock Type		Unit	Color	Weathering		Jointing				
Lapilli Tuff/Vitrophyre		Ts	Pale Red (5R 6/2)	Fresh to Slight		Moderate Fracture to Massive				
Quality			Hardness	lbs./cu ft.	Reserve (cy)		Reserve (Tons)			
Poor			R2	141						
Potentially Significant Site	Why			Open/Closed	Direction					
No	Inferior quality.			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This site is located between Highways 26 and 97. The pyroclastics are an inferior rock for road building. The terrain is flat, except for the 20 foot fault scarp on our ground. The gravel road out to this site is made up of similar rocks. The volcanic rocks would be good for gravel roads or fill/shoulder rock. This site should be evaluated for surplus. This site has no past disturbance that I can tell.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

NW

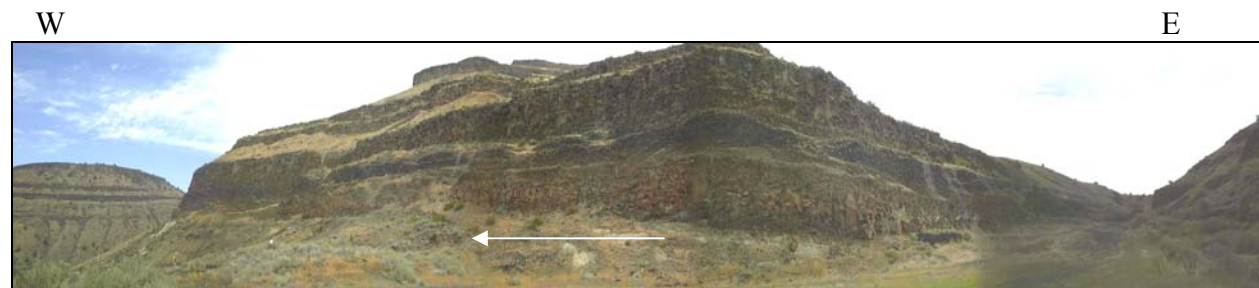


Looking northwest along the county road at the quarry site.

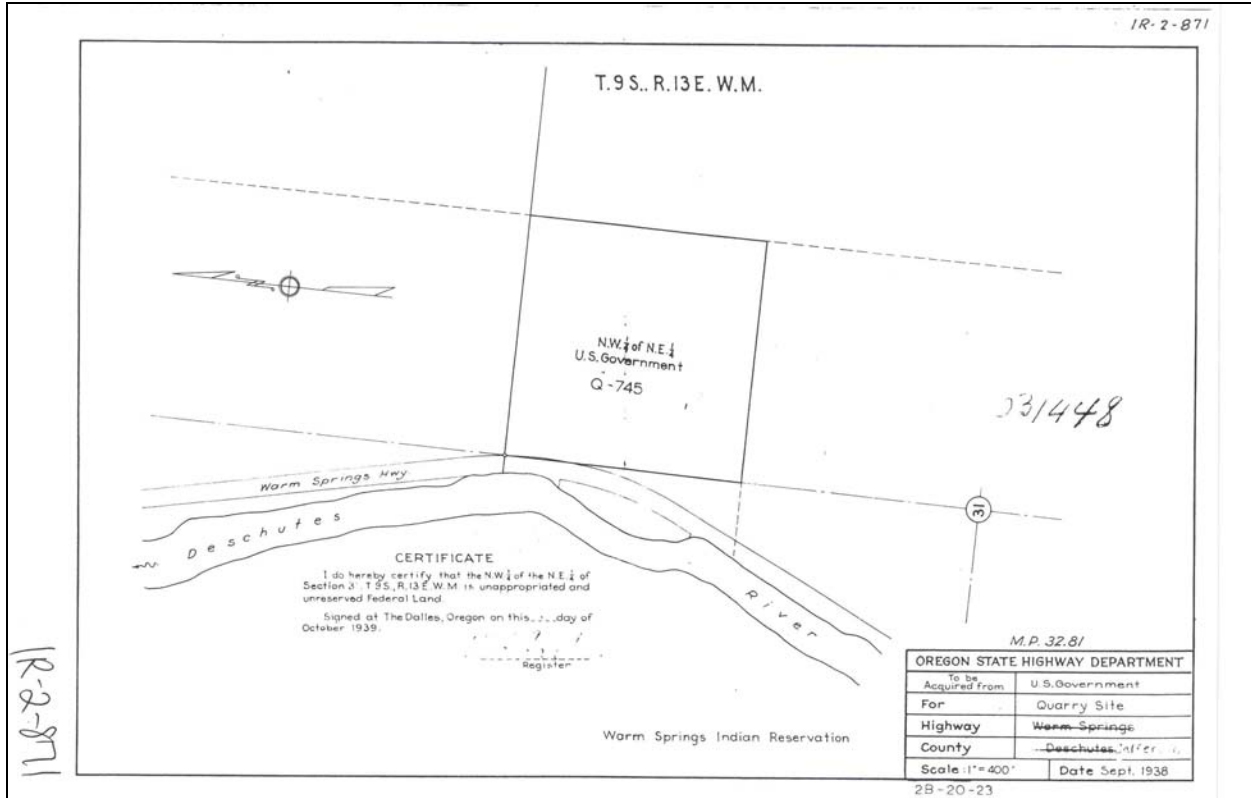


Aerial view of the quarry site and the surrounding terrain.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Jefferson				10	0053	105.89	09S	13.0E	31
File ID		Source #	Date Visited	Map #			Type of Site		
Q0745		16-030-4	8/18/1999	1R-2-871			Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #				
44 45'00.53358"	121 13'20.3836"	439.728	40	<8					
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color		Weathering		Jointing			
Basalt/Pyroclastics	Tcg/Ts	Medium Dark Grey (N4)		Fresh		Massive to Highly Fractured			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good to Very Good			R4	172	484,000	1,123,848			
Potentially Significant Site	Why	Open/Closed	Direction						
No	USA ground.	Closed	The Deschutes River is to the west across Highway 26 about 200 meters.						
Adjacent Land Use									
Open space/Farming above the top of the canyon walls.									
Remarks									
This site is adjacent to the east of Highway 26. The rock is a fine-grain basalt with some vesicular flows intermixed. This basalt sits atop a lapilli tuff. The best location to remove the basalt rock would be at the eastern end of the canyon. Fair screening from highway 26, with room to work here. There is no overburden here, but very steep to vertical slopes. The past quarry work comprised of removing some of the talus slope. This quarry site needs a good plan for removal of material now and in the future. This part of the ground is owned by the USA. This site is composed of two parcels of ground. The first is property we own on tax lot 100 for a total acreage of 39.70 per assessors office. The other property adjacent to ours is a 40 acre site owned by USA on tax lot 200. There is a small drainage channel within this canyon that funnels irrigated water to the Deschutes River. This should be addressed for future work projects here.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.82	19.0					18.6	.5	
Material Use									
BASE (1954)									



Looking to the north at the quarry site along Highway 26.
 This site is adjacent to the west of site 16-015-4.



Aerial view of the quarry site along the Deschutes River.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Jefferson					10	0053	0	10S	13.0E	36
File ID		Source #	Date Visited	Map #			Type of Site			
03070		16-900-4	8/12/1999	1R-1-1541			Raw Land			
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 39'27.00000"	121 07'50.16000"	731	4	NA						
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type	Unit	Color		Weathering			Jointing			
Soils	Tob	NA		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Poor			NA	120						
Potentially Significant Site	Why			Open/Closed	Direction					
No	Too small			Closed	Adjacent to the irrigation ditch in this area.					
Adjacent Land Use										
Industrial/Farming										
Remarks										
This is a flat raw piece of land located north of Madras in the Industrial area along Highway 26. It is bound by the rail line, irrigation ditch, and the highway. I saw no rock at this location. This site should be evaluated for surplus. This site would be better suited for a stock pile site or right of way property to sell.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

SW



Looking to the southwest at the site on the northern portion of Madras, OR.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Klamath					10	0004	181.09	24S	09.0E	04
File ID		Source #	Date Visited	Map #		Type of Site				
10607A, 10607, 00818, 17805		18-001-4	07/11/2000	1R-1-1269		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 31'05.92049"	121 39'17.84174"	1326.916	62.27	<13						
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color		Weathering			Jointing			
Volcanic Gravel	Qs	NA		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair to good			NA	120	500,000	810,000				
Potentially Significant Site	Why	Open/Closed		Direction						
No	NA	Closed		Little Deschutes river to the west about 500 meters						
Adjacent Land Use										
Open space										
Remarks										
This is a borrow site and waste site along Highway 97. The material would be used for fill or sanding. It is composed of loose volcanic pumice, cinder, (90%) and minor gravel (10%). The property is used for a waste site of materials and grindings. There are multiple small pits scattered throughout the ground. There is good screening with plenty of room to work. There is no sign or gate to the site.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

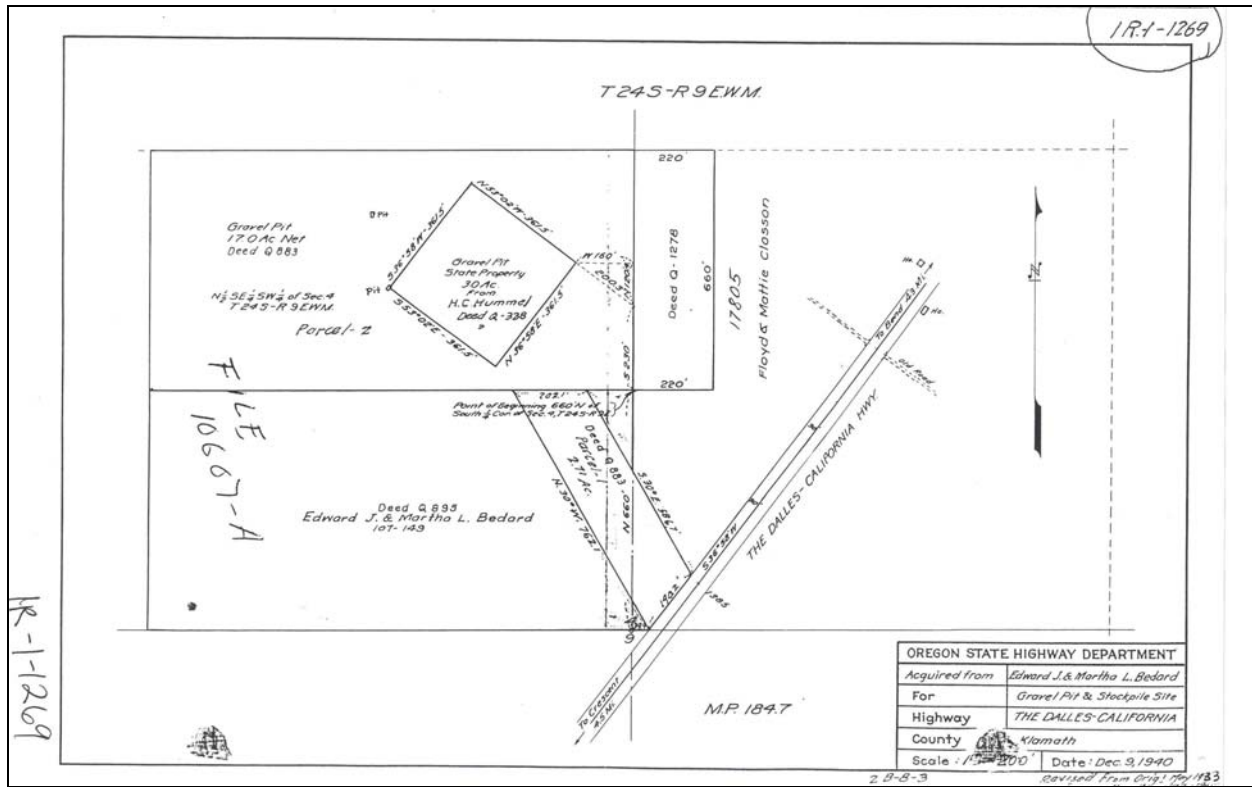
S

NW



Looking to the southwest at the borrow site along Highway 97.

Close-up view of the volcanic material at this location.



Aerial view of the borrow site that is located west of the highway.

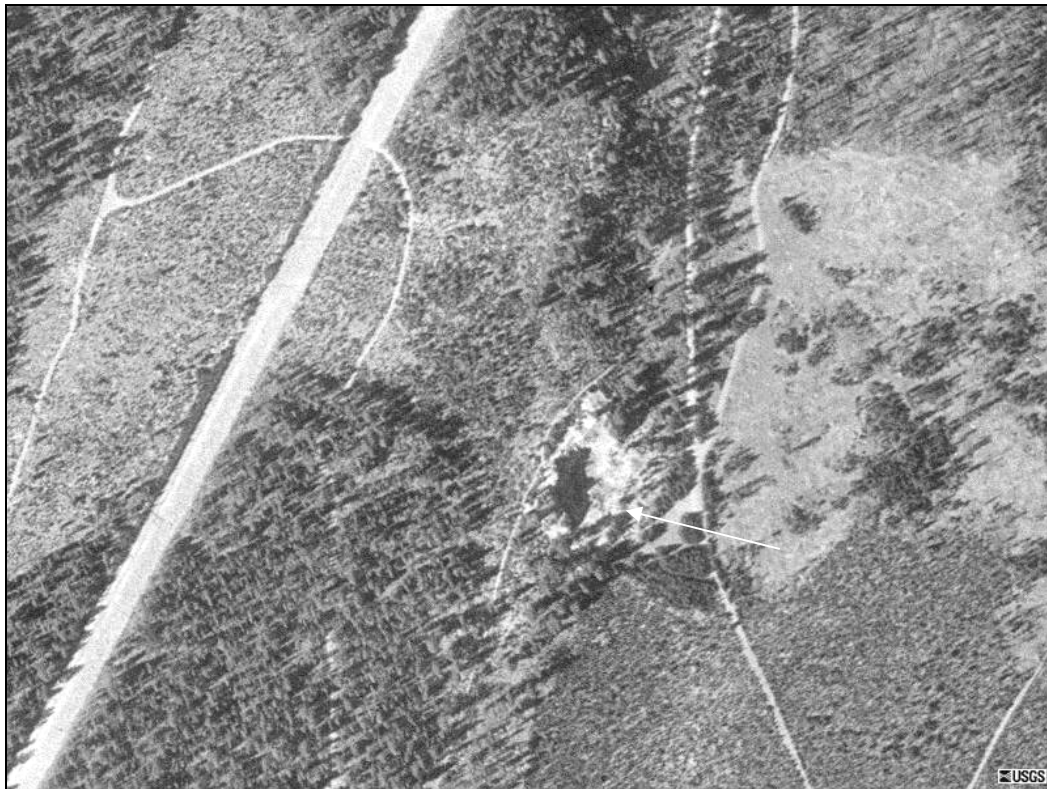
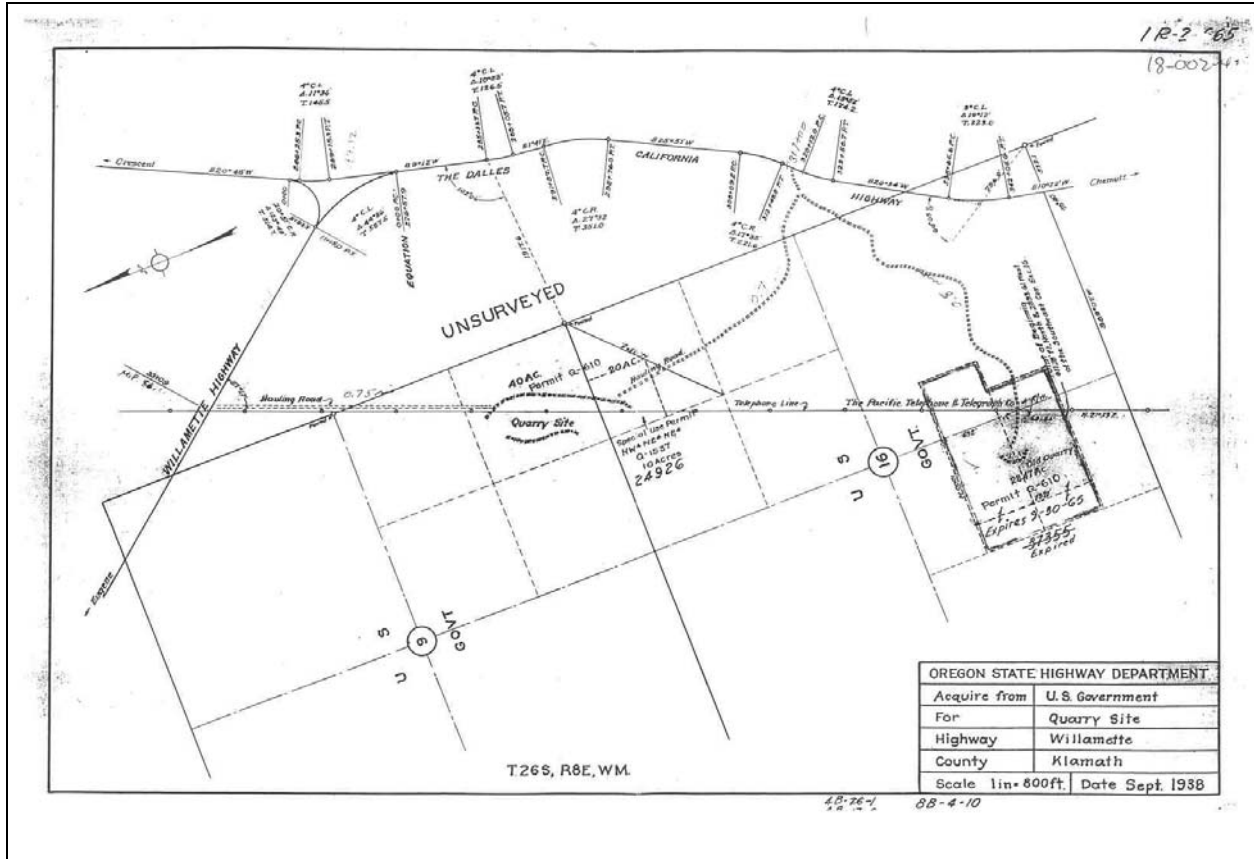
County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Klamath					10	0004	195.9	26S	08.0E	09
File ID		Source #	Date Visited	Map #		Type of Site				
24926		18-002-4	07/13/2000	1R-2-665		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 19'35.63407"	121 46'05.89623"	1420.343	40	<1						
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color		Weathering		Jointing				
Andesite	Otba	Medium Light Grey (N6)		Fresh		Massive				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			R3	151						
Potentially Significant Site	Why			Open/Closed	Direction					
No	USA ground			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This site is 3/8 of a mile west of Highway 97. The rock is a medium-grain andesite that has massive fractures and no weathering. This is a good site for rip rap material. This has to either be a flow front or a structure to produce the large cliff. The small pit has a very tall and dangerous face. I suggest we work from the top down at this location from now on. There is room to work and good screening. The area is now overgrown with small pine trees. You will need to drill and blast. Region geology informed that there is little to no rock of any quantity left here now. This site is not in the Right of Way database. Approximately 40,000 cubic yards of material have been removed.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

NW



Looking to the northwest at the tall bench cut at this quarry site location.

Close-up of the massive fracture pattern at this site.



Aerial view of the quarry site located west of Highway 97.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Klamath	Junction Quarry				10	0004	195.9	26S	08.0E	16
File ID		Source #	Date Visited	Map #		Type of Site				
37355		18-003-4	07/18/2000	1R-2-665, 1R-1-1265		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 18'55.23601"	121 46'35.69331"	1442.098	40	NA	18-0081					
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color		Weathering		Jointing				
Andesite	Otba	Medium Light Grey (N6)		Slight to Moderate		Highly Fractured				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair			R2+	162	120,000	262,440				
Potentially Significant Site	Why			Open/Closed	Direction					
No	Leased ground.			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This site is west of Highway 97 about 5/8 of a mile. The rock is a fine-grain platy andesite. Some of the rock is massive. You will need to drill and blast. There is plenty of room to work and good screening. It appears that this site has had a lot of past work done here. This is leased ground from the USA. This site is not in the Right of Way database.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.31	2.43	22.3	9.3	6.6			15.0	0.5		
Material Use										
BASE AC (1983)										

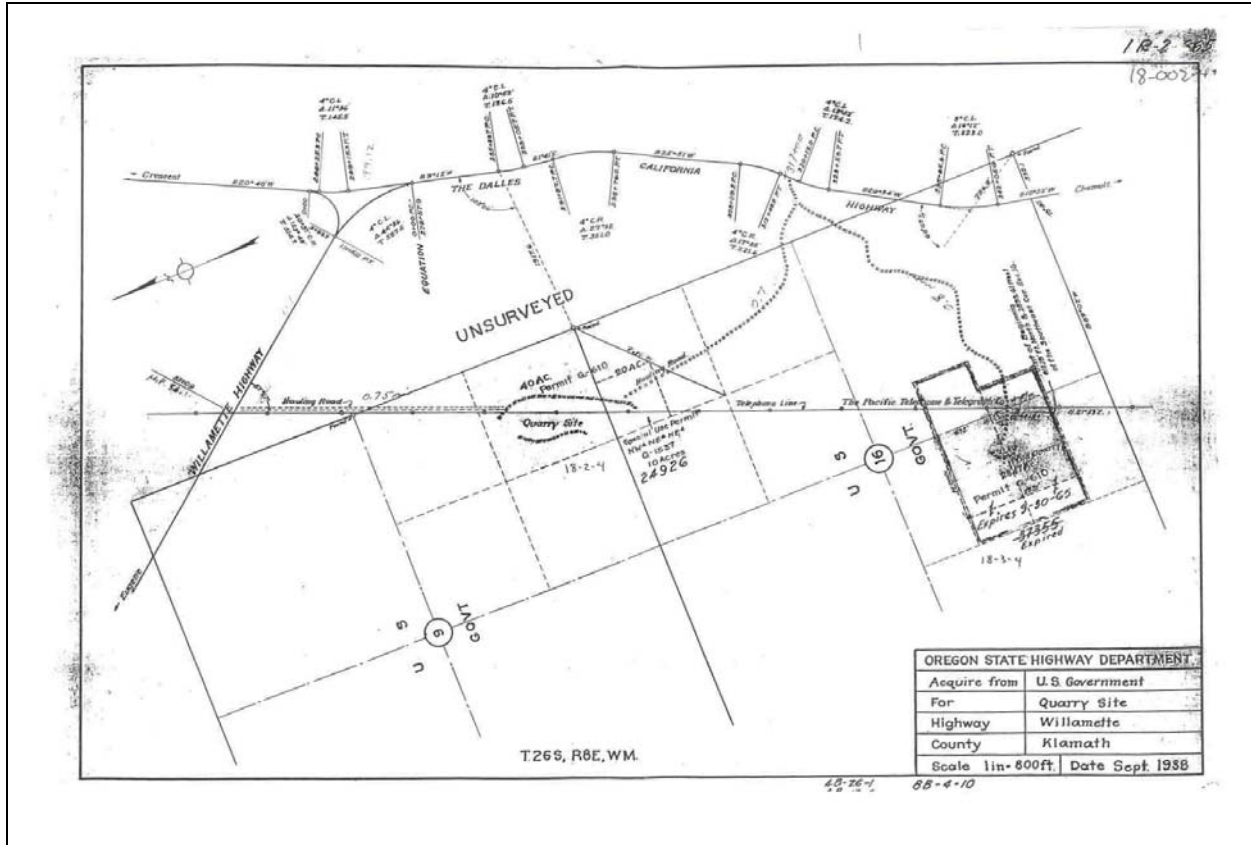
SW

NE



Looking to the west at the quarry site that is on leased ground.

Close-up view of the platy fracture pattern at this quarry site.



Aerial view of the quarry site west of Highway 97.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Klamath					10	0004	206.78	28S	08.0E	04
File ID		Source #	Date Visited	Map #		Type of Site				
07718, 07718A, 11903A		18-006-4	07/13/2000	1R-1-1390		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 10'37.44000"	121 46'16.00000"	1453	18.61	<2	18-0092					
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type	Unit	Color		Weathering		Jointing				
Andesite	Qtba	Medium Light Grey (N6)		Fresh		Highly Fractured				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair to good			R2+	159	50,000	107,325				
Potentially Significant Site	Why			Open/Closed	Direction					
No	NA			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This site is east of Highway 97 about .75 miles. The rock is a medium-grain platy andesite. This site has poor quality cinder and highly weathered basalt intermixed. This site also produces a large quantity of rip rap. There is some room to work and good screening. You can rip the material.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.46	2.55	16.9	2.1	2.4	0.6			12.5		
Material Use										
AC (1988)										



Aerial view of the quarry site that is located east of Highway 97 (far left of the image).

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Klamath				10	0019	3.13	23S	10.0E	02
File ID		Source #	Date Visited	Map #			Type of Site		
Q0522		18-062-4	07/11/2000	1R-1-1744			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #				
43 36'17.94797"	121 30'01.23984"	1299.126	160	<5					
Comments									
GPS acquired along Highway 31 and the pit.									
Rock Type	Unit	Color	Weathering			Jointing			
Volcanic Gravel	Qs	NA	NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
NA			NA	120	1,000,000	1,620,000			
Potentially Significant Site	Why			Open/Closed	Direction				
No	USA Ground			Closed	NA				
Adjacent Land Use									
Open space									
Remarks									
This is a borrow site along Highway 31. The dominate material exposed is pumice and sand with minor volcanic pea gravel. Unknown depth to bedrock. A lot of pine trees at this site. USA ground. There is water in the bottom of the pit.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
2.62									
Material Use									
Gravel Topping (1939)									

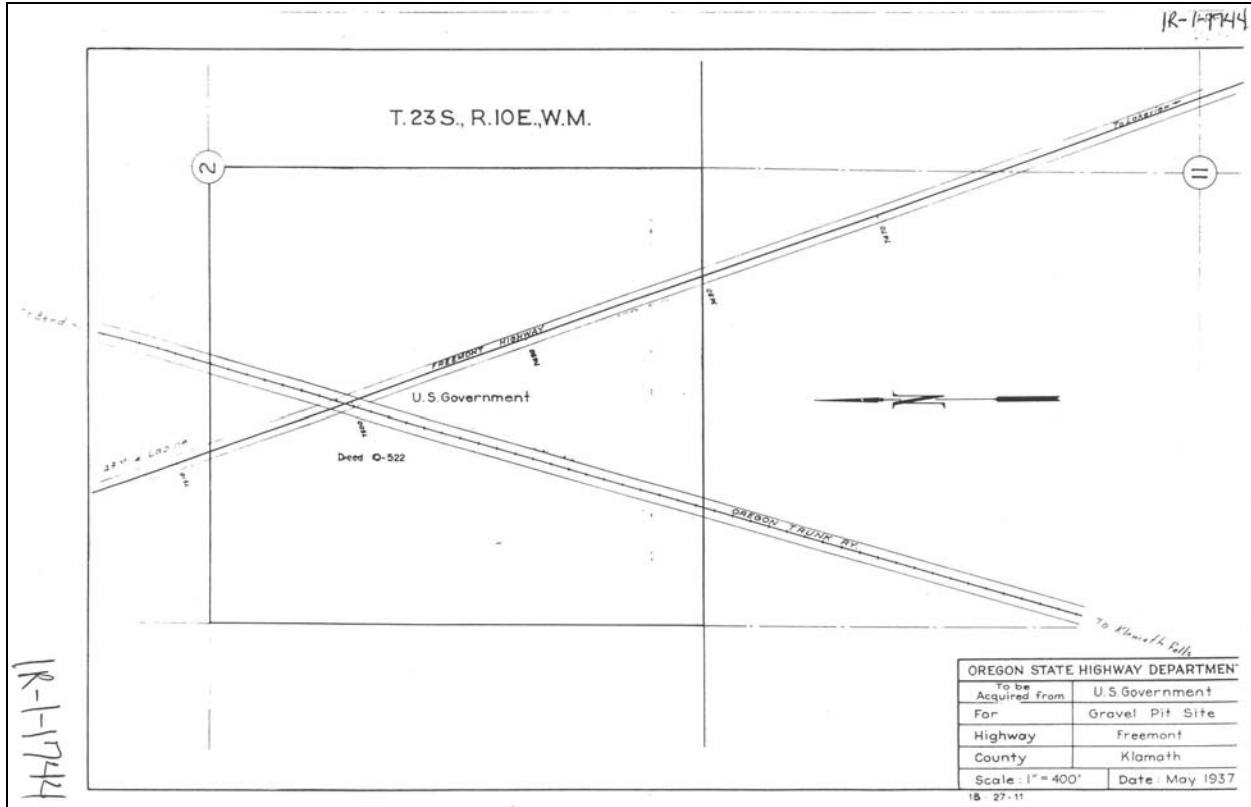
SW

N



Looking to the northwest at the borrow site that is adjacent to Highway 31.

Close-up view of the volcanic material at this location.



Aerial view of the borrow site at the junction of Highway 31 and the rail line.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Klamath					10	0019	5.93	23S	10.0E	23
File ID		Source #	Date Visited	Map #		Type of Site				
Q0715		18-063-4	07/12/2000	1R-2-906		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 34'00.44255"	121 30'09.84585"	1302.865	80	<40						
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color	Weathering		Jointing					
Volcanic Gravel	Qs	NA	NA		NA					
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair			NA	120	1,000,000	1,620,000				
Potentially Significant Site	Why			Open/Closed	Direction					
No	USA Ground			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This is a borrow site that is located about 1.5 miles west of Highway 31. The material is composed of pumice and sand. There are minor amounts of gravel. There is ample room to work and good screening. This site is a major dumping ground used by people. Waste site for grindings. USA ground.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.68							28.4	3.2		
Material Use										
Base and Top AC (1967)										

SW

NE



Looking to the northwest at the borrow site that is located west of the highway.

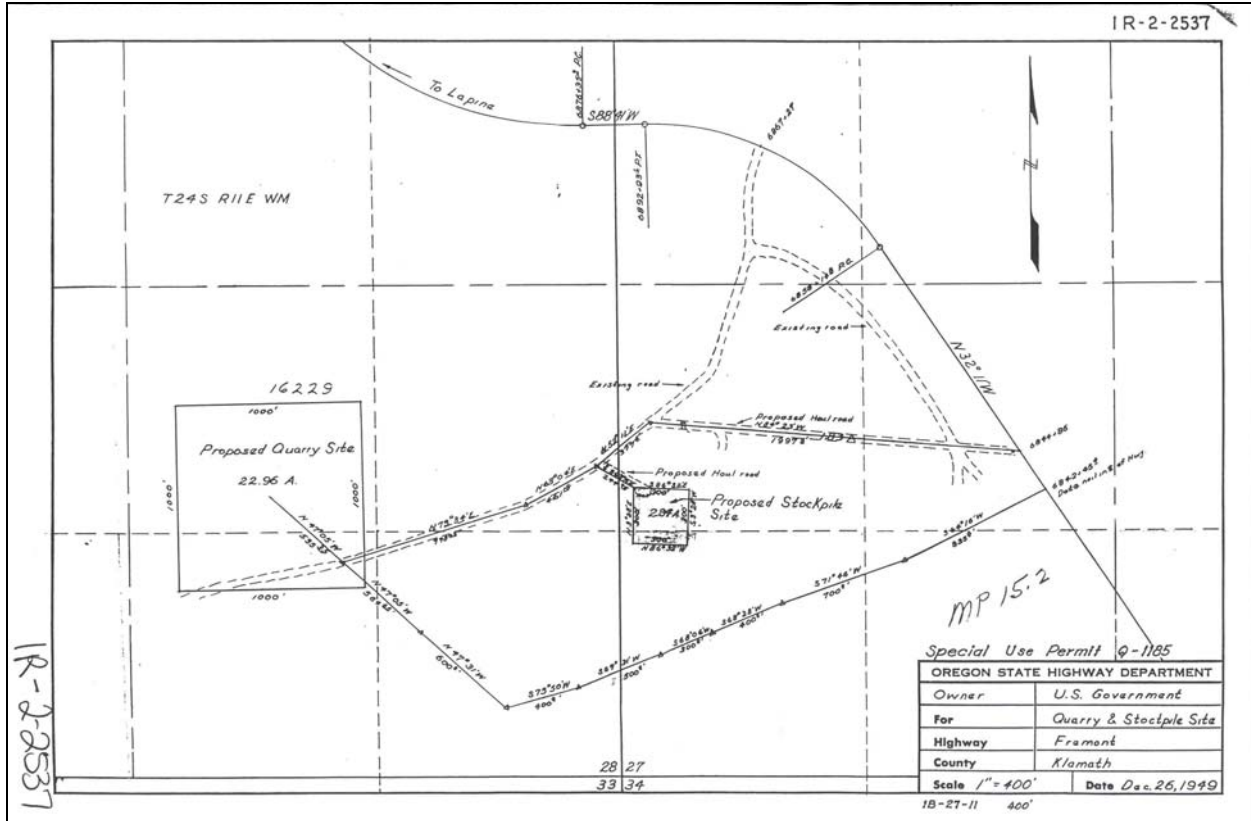
Close-up view of the volcanic material at this site.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Klamath				10	0019	14.74	24S	11.0E	28
File ID		Source #	Date Visited	Map #			Type of Site		
16229		18-064-4	07/11/2000	1R-2-2537			Raw Land		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 27'40.69000"	121 23'56.99000"	1461	22.96	NA					
Comments									
Lat. and Long. acquired using Terrain Navigator Software									
Rock Type	Unit	Color		Weathering			Jointing		
Volcanic	QTb	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Fair			NA	120					
Potentially Significant Site	Why			Open/Closed	Direction				
No	USA Ground			NA	NA				
Adjacent Land Use									
Open space									
Remarks									
This is raw land owned by the USA. The terrain is fairly flat with no visible exposures of basalt. A lot of pumice and some 70' pine trees. Good screening with plenty of room to work. This lease has been terminated.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.73	50.9							
Material Use									
Base Topping and Oil Rock (1959)									

NE



Looking to the northeast at the raw land along the Forest Service Road.



Aerial view of the raw land site (left arrow) west of Highway 31 (upper right corner).

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake					10	0007	71	23S	22.0E	07
File ID		Source #	Date Visited		Map #			Type of Site		
Q0725		19-002-4	05/22/2001		1R-2-888			Raw Land		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43°35'42.47000"	120°08'04.77000"	1373	40	NA						
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type	Unit	Color		Weathering			Jointing			
Basalt	Tob	Medium Dark Grey (N4)		Slight			Massive to Highly Fractured			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			R3	165	850,000	1,893,375				
Potentially Significant Site	Why			Open/Closed	Direction					
No	NA			Closed	NA					
Adjacent Land Use										
Open Space										
Remarks										
Highway 20 bisects this ground, with the lions share located on the north side. The rock here is a fine-grain basalt. The relief along the highway is about 80 feet. There would be no screening, but room to work. Access to the top would need to be developed. You could rip the material, but you will probably need to drill and blast. Minor vesicular basalt throughout.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
		24.5								
Material Use										

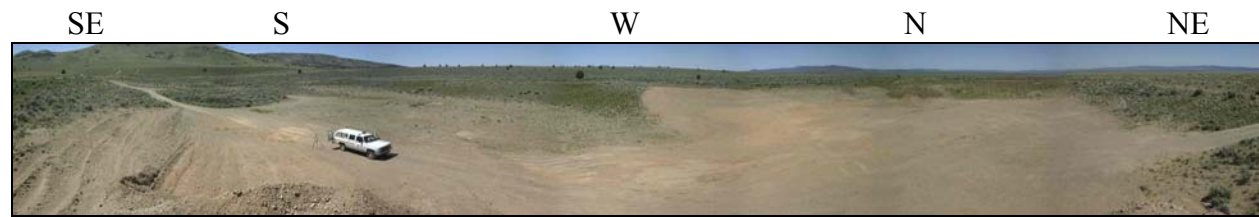
NW

NE



View to the north of the raw land site that is adjacent to Highway 20.

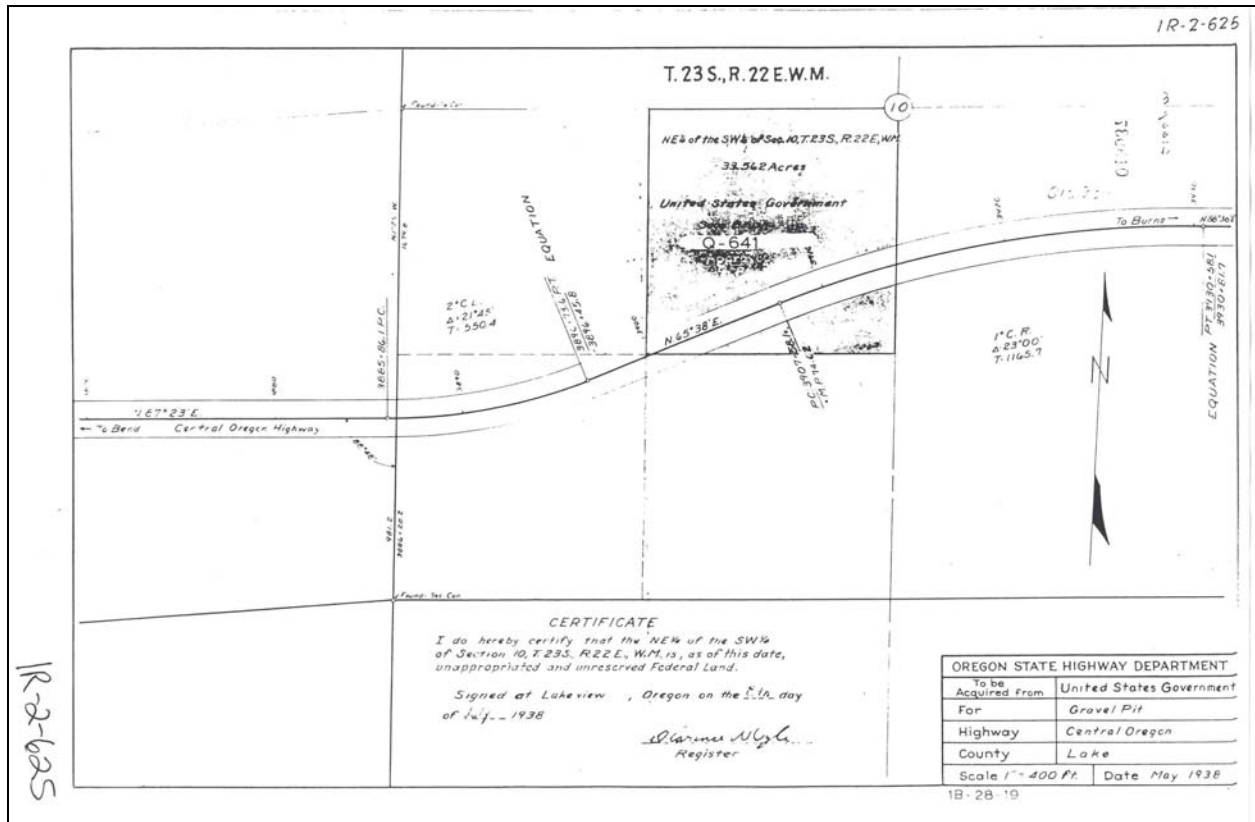
County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake				10	0007	74	23S	22.0E	10
File ID		Source #	Date Visited	Map #			Type of Site		
Q0641		19-003-4	05/22/2001	1R-2-625			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43°35'29.89660"	120°04'03.83177"	1390.93	40	<7 acres		19-0004			
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color		Weathering			Jointing		
Volcanic Colluvium	Qf	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Fair			NA	120	300,000	486,000			
Potentially Significant Site	Why			Open/Closed	Direction				
No	NA			Closed	NA				
Adjacent Land Use									
Open Space									
Remarks									
Highway 20 bisects the ground, with the borrow pit located north of the highway. The material is composed of cobble size and less volcanic rock (50%) and sand/silt (50%). The terrain is flat with no screening from the highway. One half of the rock is obsidian.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
		19.3							
Material Use									
AC (1983)									



Panoramic view of the borrow site along Highway 20.



Close-up view of the aggregate at this location with the hammer for scale.



Aerial view of the borrow site along Highway 20.

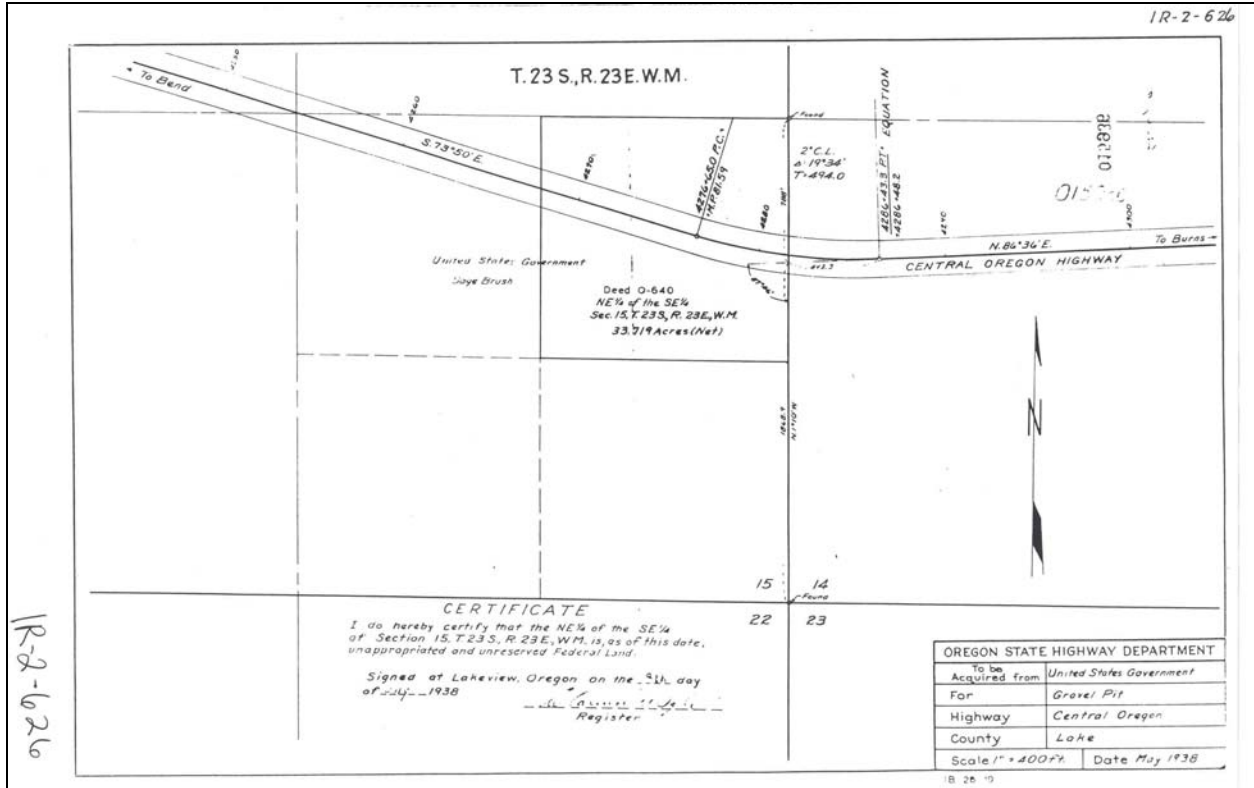
County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake					10	0007	82	23S	23.0E	15
File ID		Source #	Date Visited	Map #		Type of Site				
Q0640		19-005-4	05/22/2001	1R-2-626		Raw Land				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43°34'35.56000"	119°56'09.45000"	1401	40	NA						
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type	Unit	Color	Weathering		Jointing					
Volcanic Colluvium	Qf	NA	NA		NA					
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair			NA	120	300,000	486,000				
Potentially Significant Site	Why			Open/Closed	Direction					
No	NA			Closed	NA					
Adjacent Land Use										
Open Space										
Remarks										
Highway 20 bisects the site. This is raw land with no prior disturbance. The terrain is fairly flat with no screening from the highway. The material is composed of large pebble size and less 20% and sand/silt 80%. There are thin vesicular basalt flows that make up the low lying hills in this area.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										



View of the raw land site that Highway 20 bisects.



Close-up view of the aggregate material at this location.

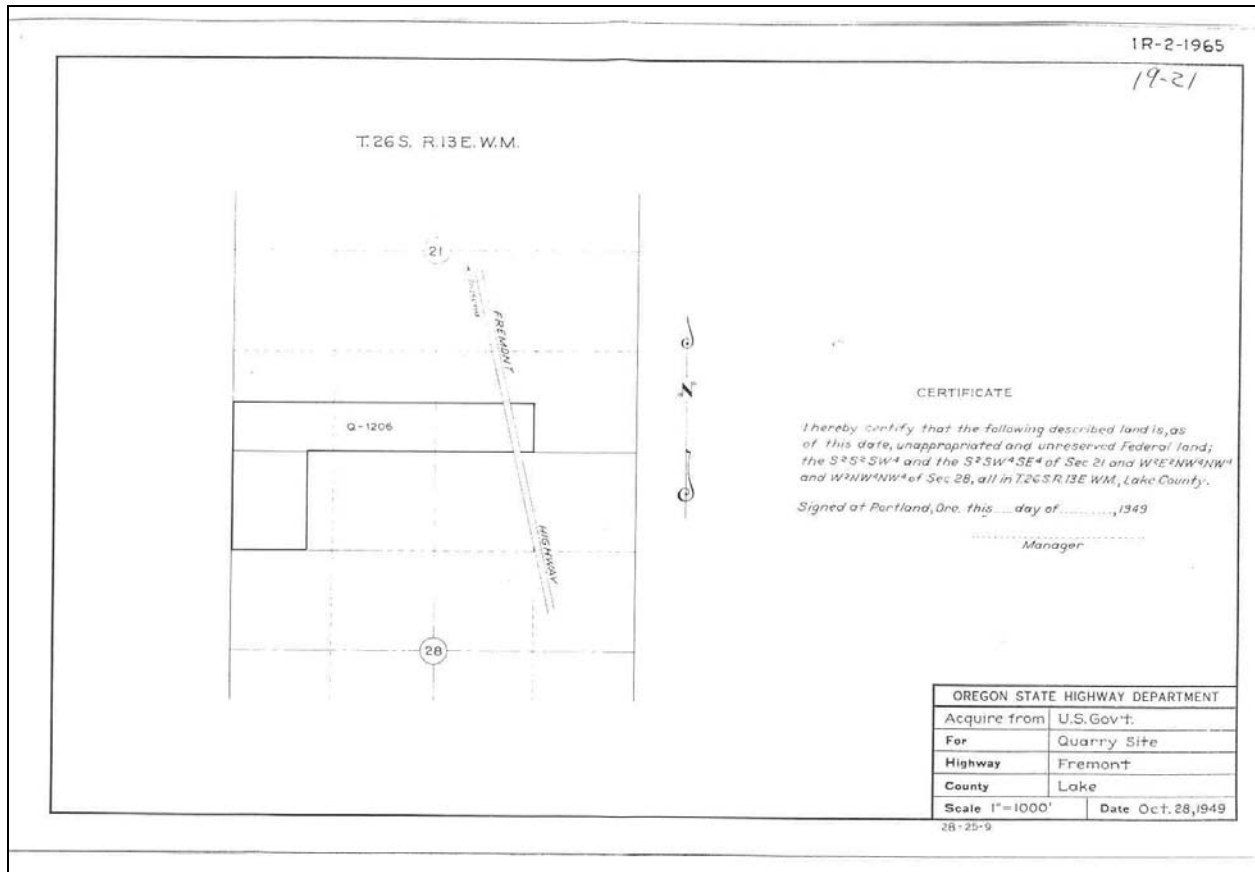


Aerial view of the raw land at this location.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake	Wastina Cinder Pit				10	0019	33.37	26S	13.0E	21,28
File ID		Source #	Date Visited	Map #		Type of Site				
15788		19-021-4	07/11/2000	1R-2-1965		Cinder Pit				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 17'32.28065"	121 11'11.06610"	1421.661	40	<6	19-0057					
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color	Weathering		Jointing					
Cinder	NA	NA	NA		NA					
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			NA	120	300,000	486,000				
Potentially Significant Site	Why			Open/Closed	Direction					
No	USA Ground			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This is a cinder pit west of Highway 31. The site has good clean cinder for sanding. Easy to process with little waste, plenty of room to work, limited screening. No gate or sign. The disturbance is outside of the ground we control. This material has been used for AC in the past. USA ground.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.350	1.97	23.1	3.6	.4			13.8	.4		
Material Use										
AC (1993)										



Looking to the south at the cinder pit.



Aerial view of the cinder pit located west of the highway.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake	Franks Pit				10	0019	33.23	26S	13.0E	33
File ID		Source #	Date Visited	Map #		Type of Site				
01138		19-022-4	07/11/2000	1R-1-1300		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 16'12.40071"	121 11'03.40839"	1388.218	10	<2						
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color		Weathering			Jointing			
Volcanic Gravel	Qs	NA		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair			NA	120	60,000	97,200				
Potentially Significant Site	Why			Open/Closed	Direction					
No	NA			Closed	NA					
Adjacent Land Use										
Open space/ranch to the south about 1000 meters										
Remarks										
This is a borrow site about one mile west of Highway 31. The material is composed of gravel with the dominant size around golf ball (80%), cobble (5%), sand (15%) and the shape as prismatic. There is ample room to work with good screening. No sign or gate at the access point. Flat terrain throughout.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	2.74	7.0								
Material Use										
Maintenance Aggregate (1938)										

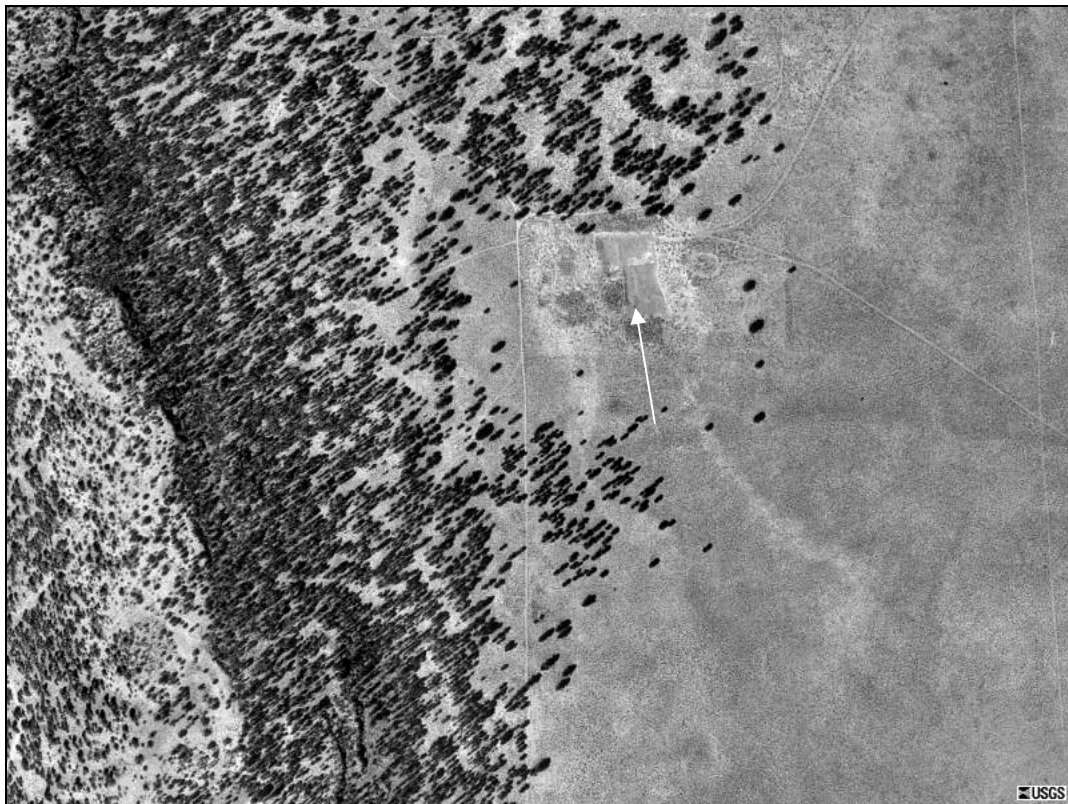
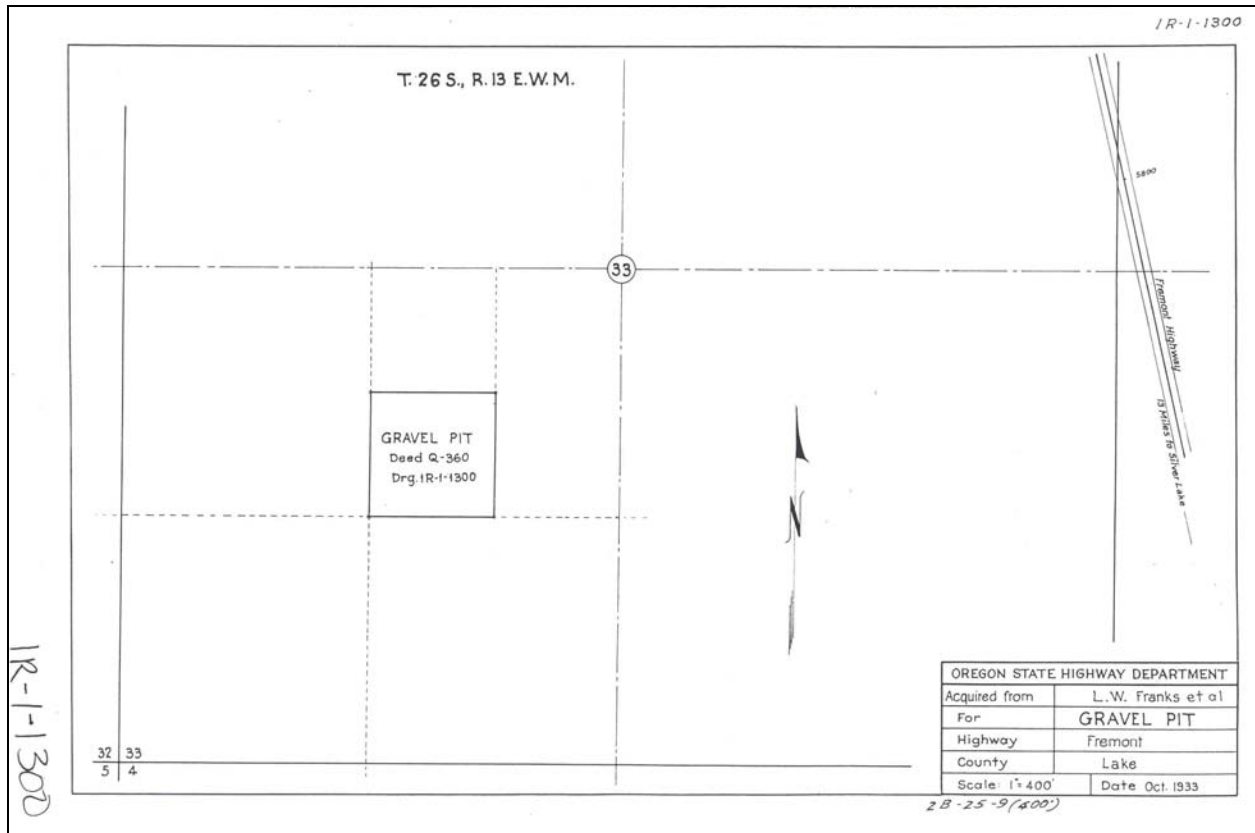
W

NE



Looking to the north at the borrow site and the past disturbance.

Close-up view of the volcanic gravel at this location.



Aerial view of the borrow site located west of Highway 31.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake					10	0019	38.87	27S	13.0E	14
File ID		Source #	Date Visited	Map #		Type of Site				
S-912		19-023-4	07/11/2000	1R-2-727		Raw Land				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 13'28.14151"	121 08'23.58820"	1365.749	40	<1						
Comments										
GPS acquired in turn-out along Highway 31.										
Rock Type	Unit	Color		Weathering		Jointing				
Basalt	Tob	Medium Dark Grey (N4)		Slight		Massive				
Quality		Hardness		lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair		R2+ to R3+		120	484,000	784,080				
Potentially Significant Site	Why			Open/Closed	Direction					
No	USA Ground			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This is raw land on both sides of Highway 395. There is a small borrow pit on the west side. The east side is a basalt flow front about 30' tall. The basalt is very vesicular, somewhat soft and massive. There is some room to work, but no screening. You could rip the rock but should drill and blast. Fairly flat terrain. USA ground. This site is not in the Right of Way database.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

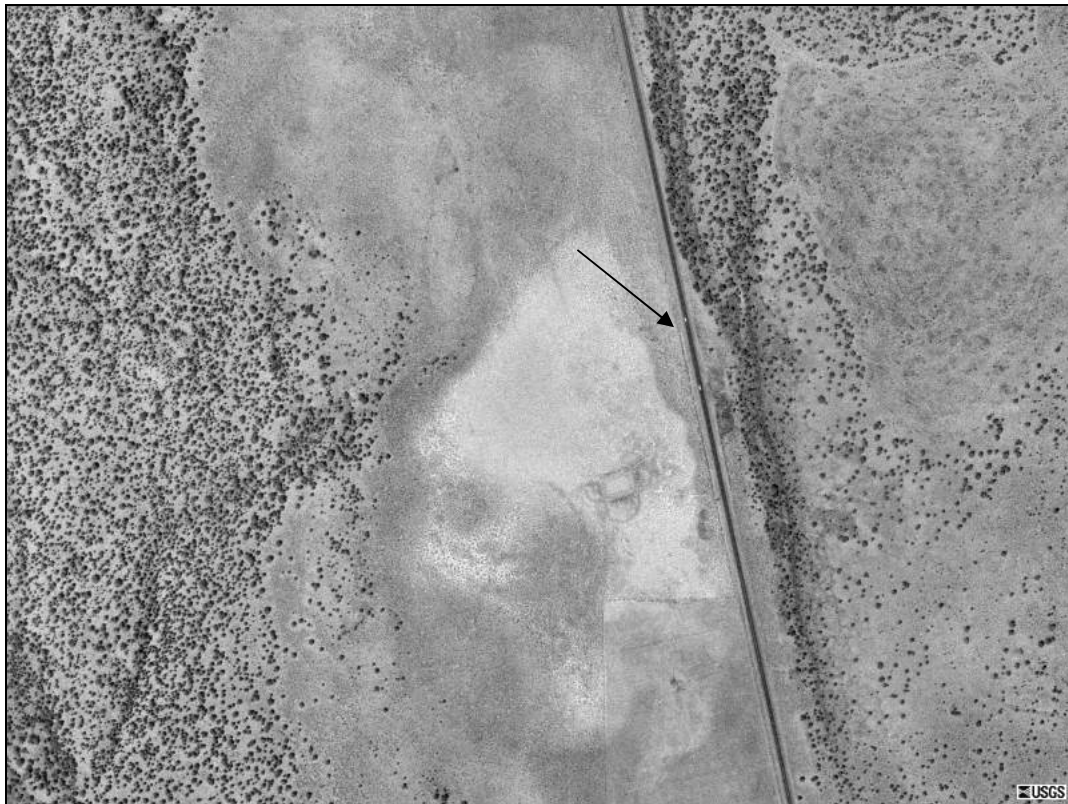
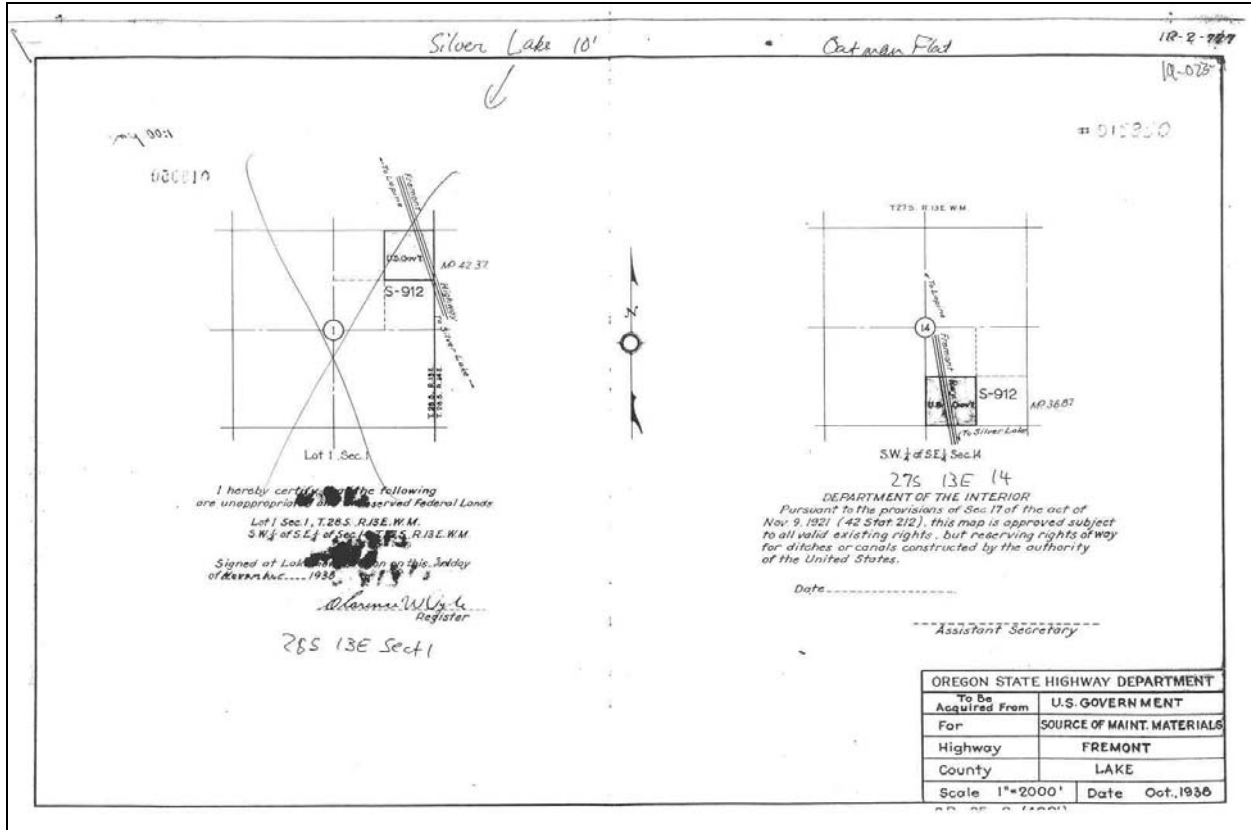
E

SW



Looking to the south along Highway 31 at the raw land site on both sides of the road.

Close-up view of the basalt in place at the site.



Aerial view of the raw land site and the surrounding terrain.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake					10	0019	42.37	28S	13.0E	01
File ID		Source #	Date Visited	Map #			Type of Site			
S-912		19-024-4	07/11/2000	1R-2-727			Raw Land			
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 10'39.62000"	121 06'52.58000"	1331	40	NA						
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type	Unit	Color		Weathering			Jointing			
Basalt/Colluvium	Qs	NA		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair			NA	120	160,000	259,200				
Potentially Significant Site	Why			Open/Closed	Direction					
No	USA Ground			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This is raw land adjacent to and west along Highway 31. The material is composed of sand and talus from the basalt cliff to the west about 300 meters. There is room to work but no screening. Flat terrain. The basalt is the same as that found at site 19-023-4. USA ground. This site is not in the Right of Way database.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

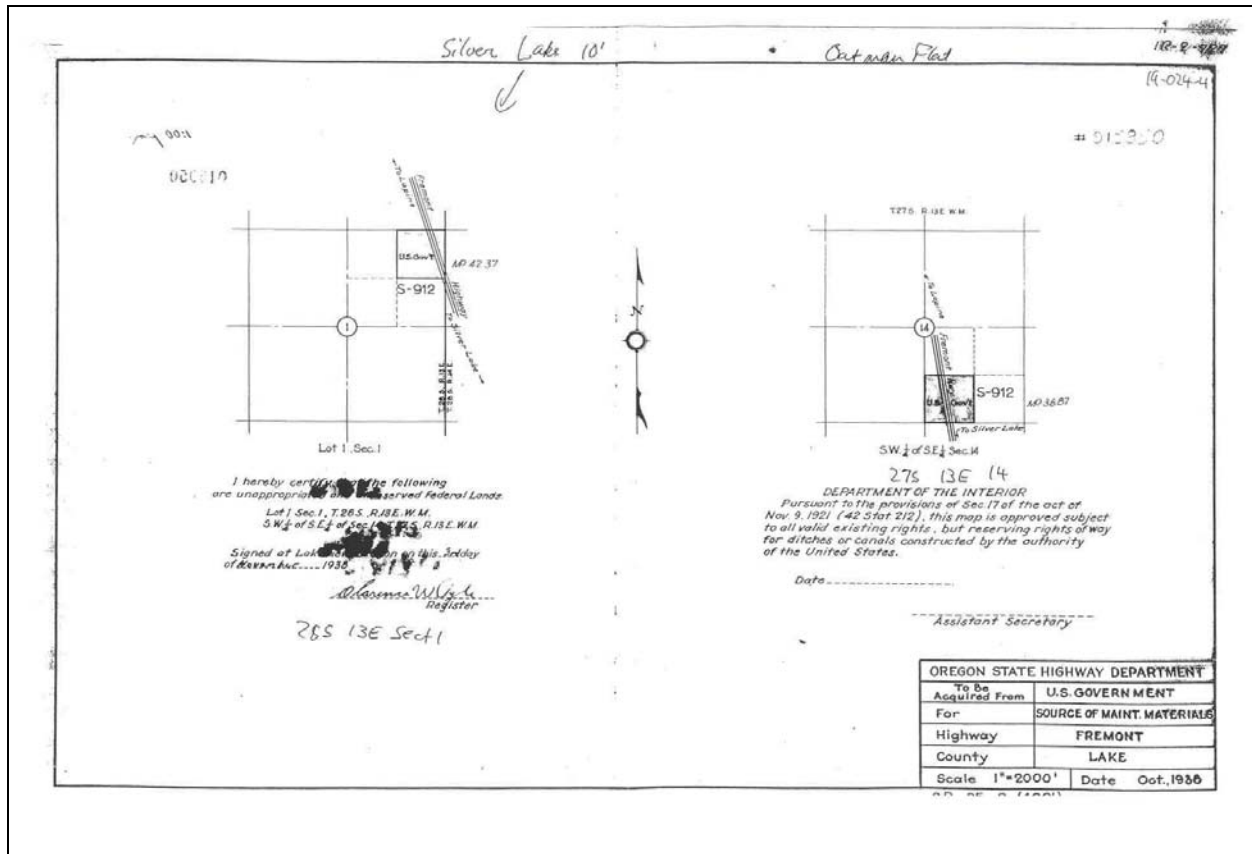
S

NW



Looking to the west at the raw land site along the highway.

Close-up view of the basalt in the area.



Aerial view of the raw land site located west of Highway 31.

County	Site Name		Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake	Lane Pit		10	0019	45.65	28S	14.0E	17
File ID		Source #	Date Visited	Map #		Type of Site		
02505		19-025-4	07/11/2000	1R-1-1491		Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #			
43 08'20.34553"	121 04'39.95362"	1330.052	10.44	<2				
Comments								
GPS acquired in the pit.								
Rock Type	Unit	Color	Weathering		Jointing			
Volcanic Gravel	Qs	NA	NA		NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)		
Good to Fair			NA	120	95,000	153,900		
Potentially Significant Site	Why			Open/Closed	Direction			
No	USA Ground			Closed	NA			
Adjacent Land Use								
Ranching/Open space								
Remarks								
This borrow site north along Highway 31. This ground is used now for a waste/bone-yard, and to aerate the soils. The dominant size is golfball and less (80%), sand/silt (10%), and cobble size (10%). There is room to work, but limited screening. There is a gate (locked). USA ground								
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.
2.38	2.51	19.2	13.0	9.0	17.6	1.2	12.2	1
Material Use								
AC (1985)								

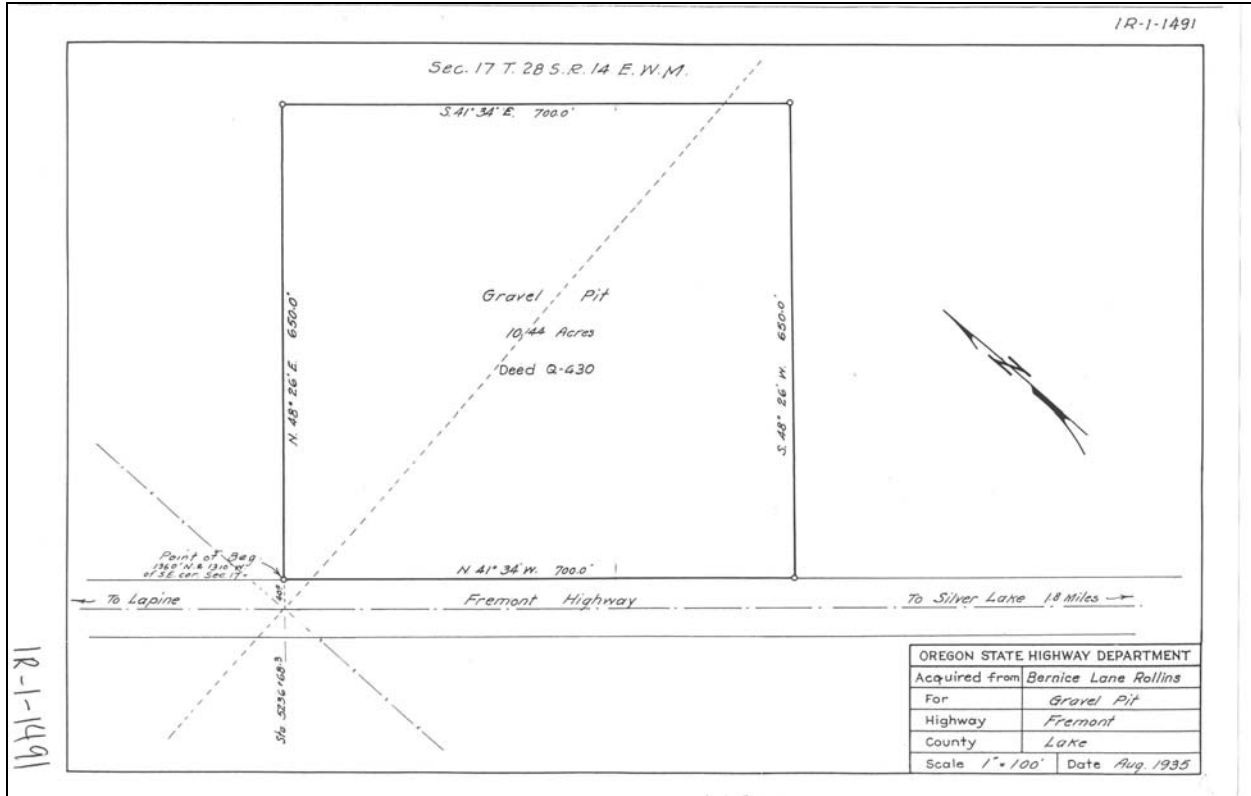
W

E



Looking to the north at the borrow/stockpile site located north of the highway.

Close-up view of the volcanic rock at this location.



Aerial view of the borrow site located west of Silver Lake.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake					10	0019	49.66	28S	14.0E	24
File ID		Source #	Date Visited	Map #		Type of Site				
06781		19-027-4	07/11/2000	1R-2-810		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 07'33.71449"	121 00'17.01334"	1320.86	17.24	<3						
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color	Weathering		Jointing					
Volcanic Gravel	Qs	NA	NA		NA					
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good to Fair			NA	120	80,000	129,600				
Potentially Significant Site	Why			Open/Closed	Direction					
No	NA			Closed	NA					
Adjacent Land Use										
Ranching/Residential										
Remarks										
This borrow site is just east of the town of Silver Lake and south of Highway 31. The material is composed of a heterogeneous mix of lithologies. The size ranges from pea gravel (55%) to sand/silt (45%). The Lake County Iso uses the pit. There is room to work but no screening. No sign or gate at the access point.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	2.56	26.1								
Material Use										
AC and Oil Rock (1957)										

W

E



Looking to the north at the borrow site located south of Highway 31.

Close-up view of the gravel in the area.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake	Picture Rock Gravel Pit			10	0019	66.2	29S	16.0E	36
File ID		Source #	Date Visited	Map #			Type of Site		
06061, 06062		19-028-4	07/12/2000	1R-2-607			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
43 00'51.29823"	120 46'06.23355"	1356.285	46.43	<25		19-0041			
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color		Weathering			Jointing		
Volcanic Gravel	Tob	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)		Reserve (Tons)		
Good			NA	120	200,000		324,000		
Potentially Significant Site	Why			Open/Closed	Direction				
No	NA			Closed	NA				
Adjacent Land Use									
Open space/ranch to the southeast about 750 meters.									
Remarks									
This is a borrow site located east of and along Highway 31. The material is composed of a heterogeneous mix of sizes and shapes of volcanic gravel. The dominant size is 3 cm and less (50%) with about 40% sand. There are minor amounts of cobble size gravel. There is room to work but no screening from the highway. The terrain has a gradual slope to it. There is a sign but no gate. From conversations with Region 4 this site has limited quantities left.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
2.623	2.542	19.6	3.0	1.0	14.3	11.0	8.2	34.0	
Material Use									
PITRUN AGGREGATE (2001)									

S

NE



Looking to the southwest at the borrow site along Highway 31.

Close-up view of the gravel at this location.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake				10	0019	75.25	31S	16.0E	10
File ID		Source #	Date Visited	Map #			Type of Site		
05274		19-029-4	07/12/2000	1R-2-490			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
42 53'29.97560"	120 48'36.62080"	1287.05	9.47	<2					
Comments									
GPS acquired at the access gate.									
Rock Type	Unit	Color		Weathering			Jointing		
Volcanic Gravel	Qs	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)		Reserve (Tons)		
Good			NA	120	120,000		194,400		
Potentially Significant Site	Why			Open/Closed	Direction				
No	NA			Closed	To the east about 500 meters is Summer Lake				
Adjacent Land Use									
Ranching/Residence approximately 500 feet to the east									
Remarks									
This is a borrow site about 200 meters to the west of Highway 31. The material is composed of cobble size and less prismodal gravel (70%) and sand/silt (30%). Some of the gravel is lightly cemented with caliche. There is some room to work and limited screening form the highway. The terrain is fairly flat. You have to cross over private ground to reach this site.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
Material Use									

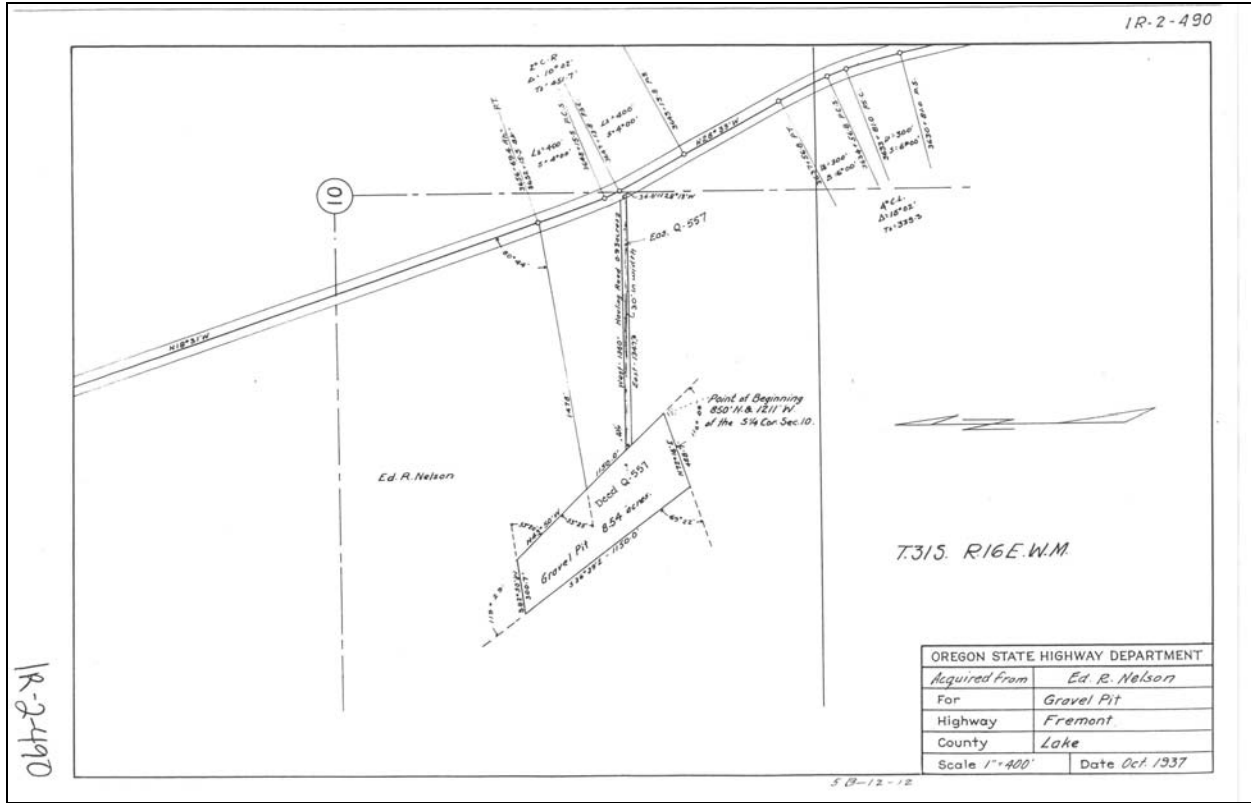
NW

NE



Looking to the north at the borrow site along the base of the fault block.

Close-up view of the gravel located in this area.



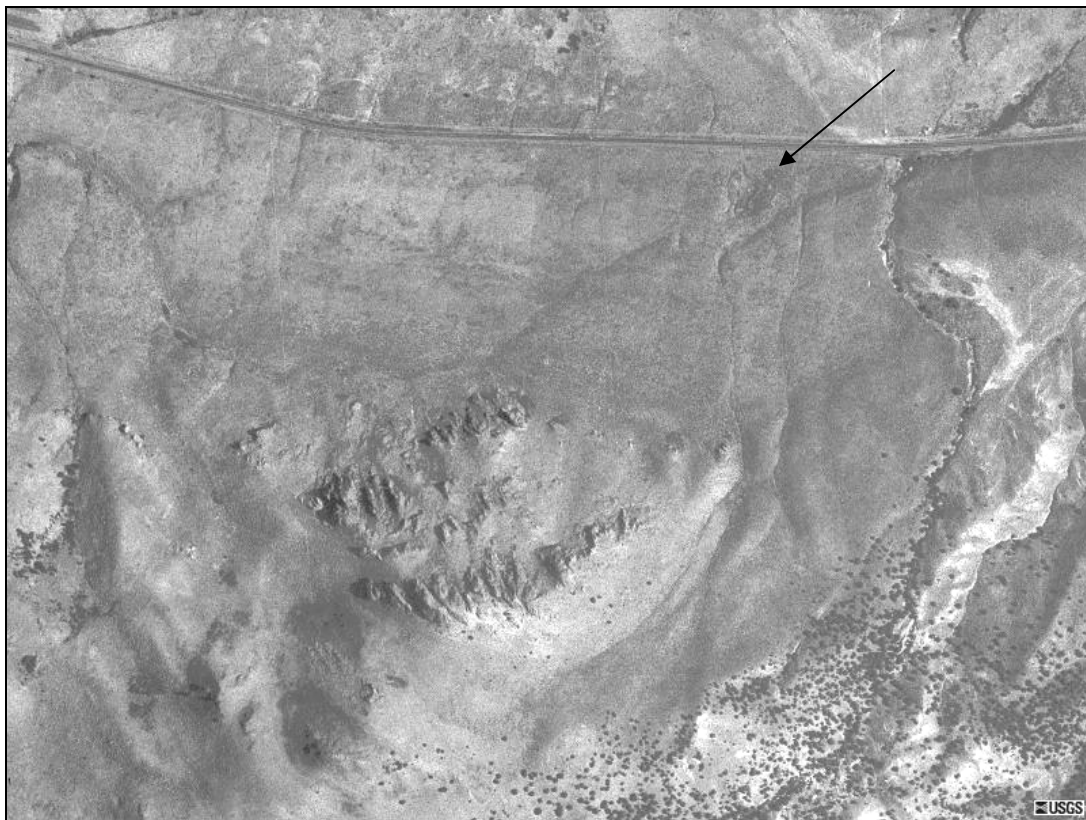
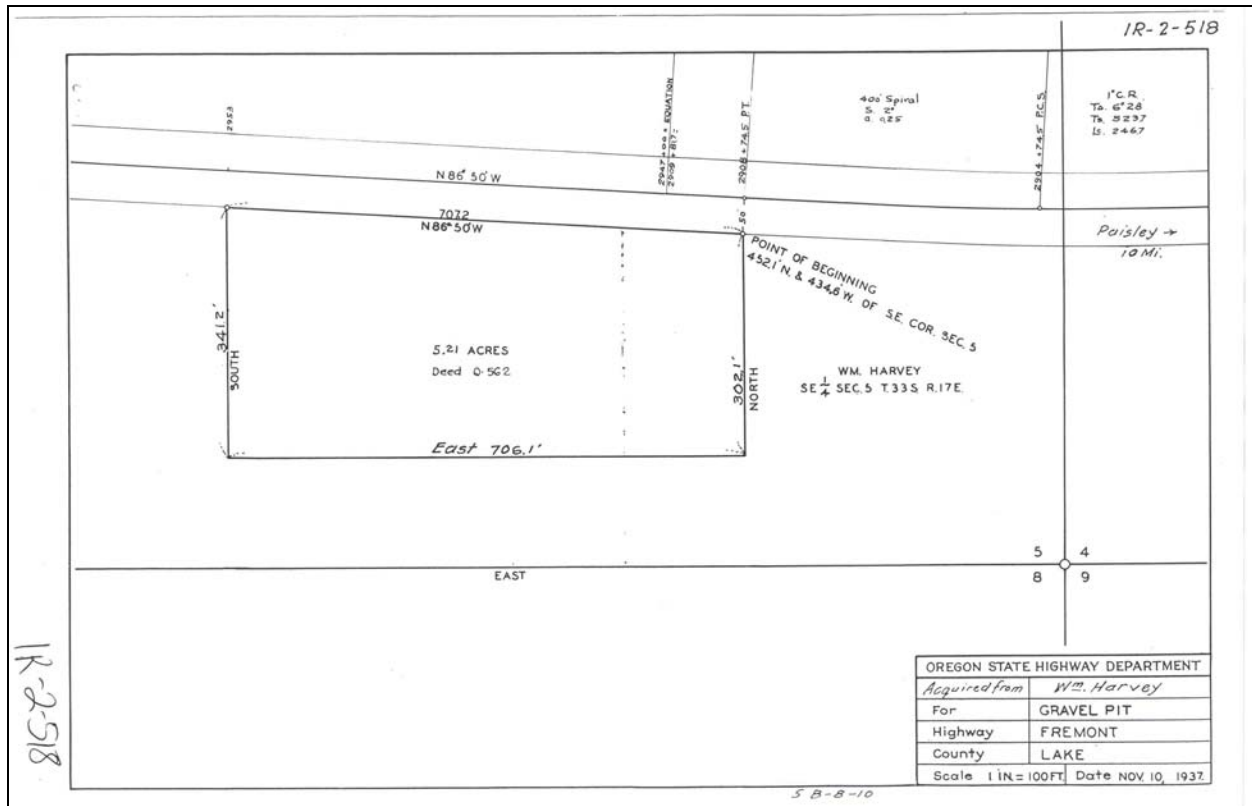
Aerial view of the borrow site in relation to Highway 31.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake				10	0019	87.4	33S	17.0E	05
File ID		Source #	Date Visited	Map #			Type of Site		
05497		19-030-4	07/12/2000	1R-2-518			Raw Land		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
42 43'49.22000"	120 43'26.56000"	1321	5.21	NA					
Comments									
Lat. and Long. acquired using Terrain Navigator Software									
Rock Type	Unit	Color		Weathering			Jointing		
Volcanic Gravel	Qls	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
NA			NA	120	80,000	129,600			
Potentially Significant Site	Why			Open/Closed	Direction				
No	NA			NA	NA				
Adjacent Land Use									
Ranching/House to the south about 300 meters									
Remarks									
This is raw land that is adjacent to and south of Highway 31. There is no access and no visible disturbances. The terrain is gradual. There is limited room to work with no screening. This site should be assessed for possible surplus.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
		13.0							
Material Use									

W



Generalized view of the terrain along Highway 31 and Summer Lake.



Aerial view of the small site that is adjacent to the south of Highway 31.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake				10	0019	94	33S	18.0E	08
File ID		Source #	Date Visited	Map #			Type of Site		
31382		19-031-4	07/12/2000	1R-1-1719			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
42 43'28.22438"	120 36'55.00917"	1311.881	160	<2					
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color		Weathering			Jointing		
Volcanic Gravel	Qs	NA		NA			NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)		Reserve (Tons)		
Good to Fair			NA	120	300,000		486,000		
Potentially Significant Site	Why			Open/Closed	Direction				
No	USA Ground			Closed	To the north about 500 meters is Summer Lake				
Adjacent Land Use									
Open space									
Remarks									
This is a borrow site located both north and south of Highway 31. The disturbance is located on the north side (Qs). There is a cliff to the south that is within the boundaries of the property that is composed of basalt (Tob). The material in the flats are composed of a heterogeneous mix of size, shape, and igneous rocks. The dominant size is pebble (50%), sand (40%), and cobble (10%). There is ample room to work with some screening. The terrain is flat. The quantity calculation is based on a 20 acre disturbance with ten foot lifts. If you calculate 160 acres and a ten foot lift you will acquire about 2.5 million cubic yards of material. USA ground.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.75	18.1					25.96	.5	
Material Use									
Surfacing Base, Top Oiling and AC (1963)									

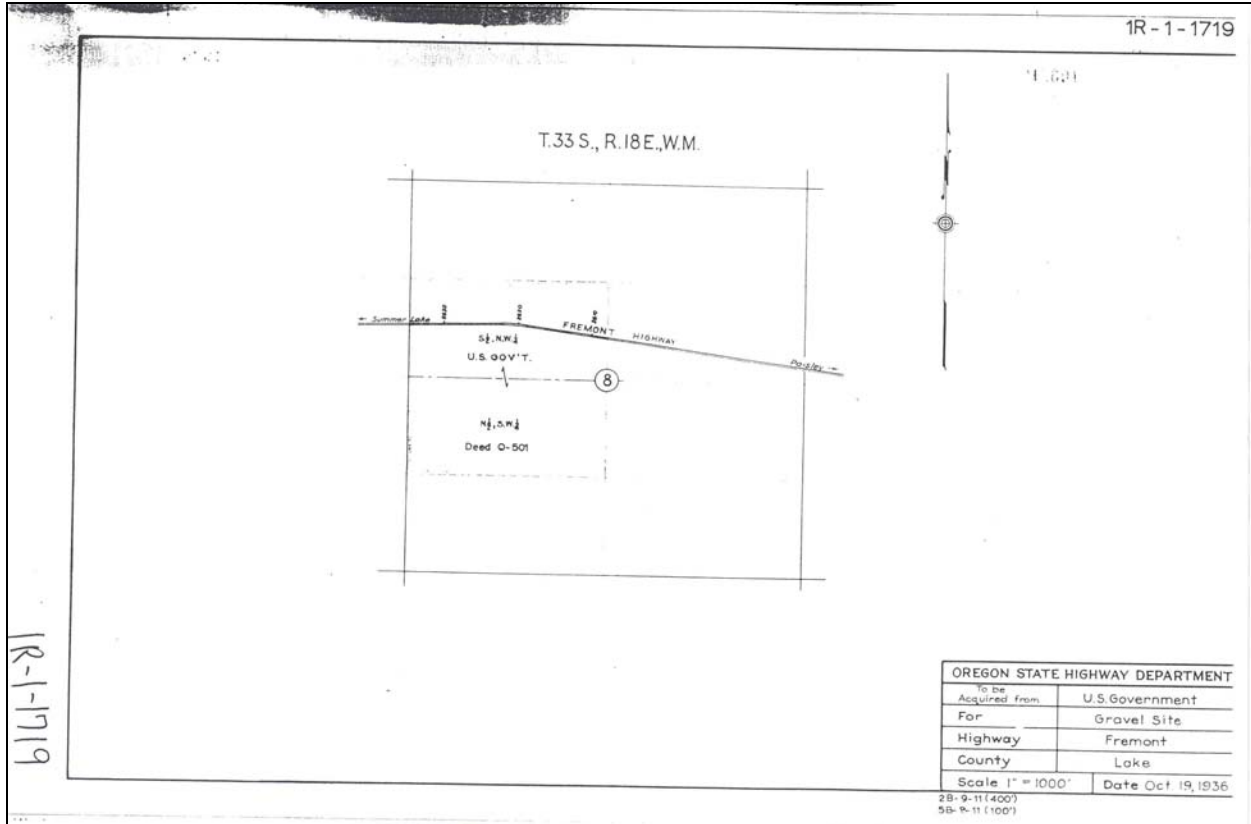
W

E



Looking to the north at the borrow site along Highway 31.

Close-up view of the gravel at this location.



Aerial view of the borrow site in relation to the surrounding area.

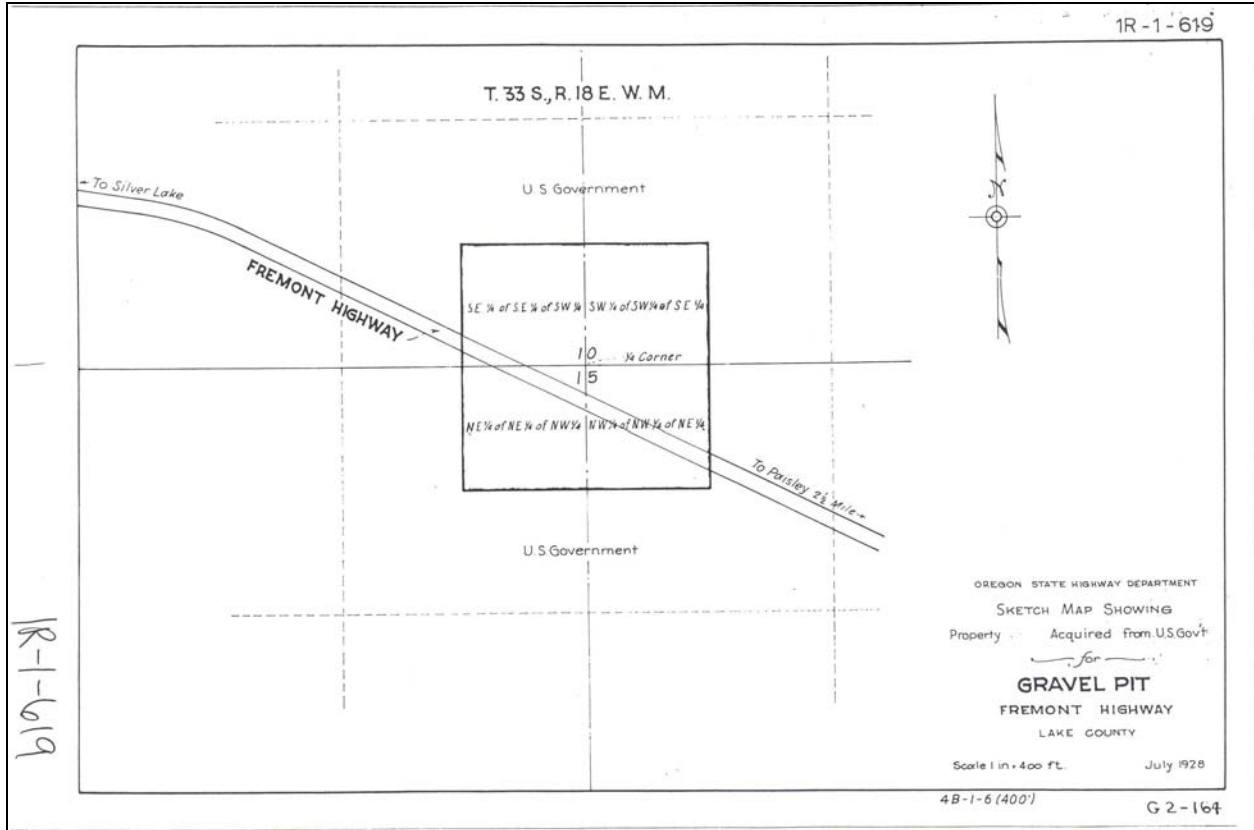
County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake	Curran Gravel Pit			10	0019	95.9	33S	18.0E	10
File ID		Source #	Date Visited	Map #			Type of Site		
Q0171		19-032-4	07/12/2000	1R-1-619			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #				
42 43'06.16180"	120 35'03.85616"	1332.077	40	<2					
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color	Weathering			Jointing			
Volcanic Gravel	Qs	NA	NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good			NA	120	300,000	486,000			
Potentially Significant Site	Why			Open/Closed	Direction				
No	USA Ground			Closed	NA				
Adjacent Land Use									
Open Space									
Remarks									
This is a borrow site located both north and south of Highway 31. The gravel at the site is composed of small prismatic volcanic pebbles. There is about 90% gravel and 10% sand. There is room to work across the highway, but no screening. The terrain is flat. USA ground.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.76	25.4			17.93	1.2			
Material Use									
Surfacing, Pavement Base, Maintenance, AC (1963)									



Looking to the northeast at the borrow site along Highway 31.



Close-up view of the material at this location.



Aerial view of the borrow site located north of Highway 31.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake	Currier Ranch				10	0019	95.9	33S	18.0E	15
File ID		Source #	Date Visited	Map #		Type of Site				
36656, 36688		19-033-4	07/12/2000	1R-4-35		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
42 42'44.86434"	120 34'47.56035"	1342.402	20	<40	19-0052					
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color	Weathering		Jointing					
Volcanic Gravel	Qs	NA	NA		NA					
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good to Fair			NA	120						
Potentially Significant Site	Why			Open/Closed	Direction					
No	USA Ground			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This is a large borrow site south of Highway 31. The material is composed of a heterogeneous mix of size and shape volcanic gravel. There is 80% gravel and 20% sand. The largest is cobble. Most of the pits have been reclaimed. The material comes from an alluvial/ colluvial fan adjacent to the fault scarp. USA ground										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.58	2.55	19.9	3.8	1	14	0.3	12.9	5		
Material Use										
PIT RUN AGGREGATE (1995)										

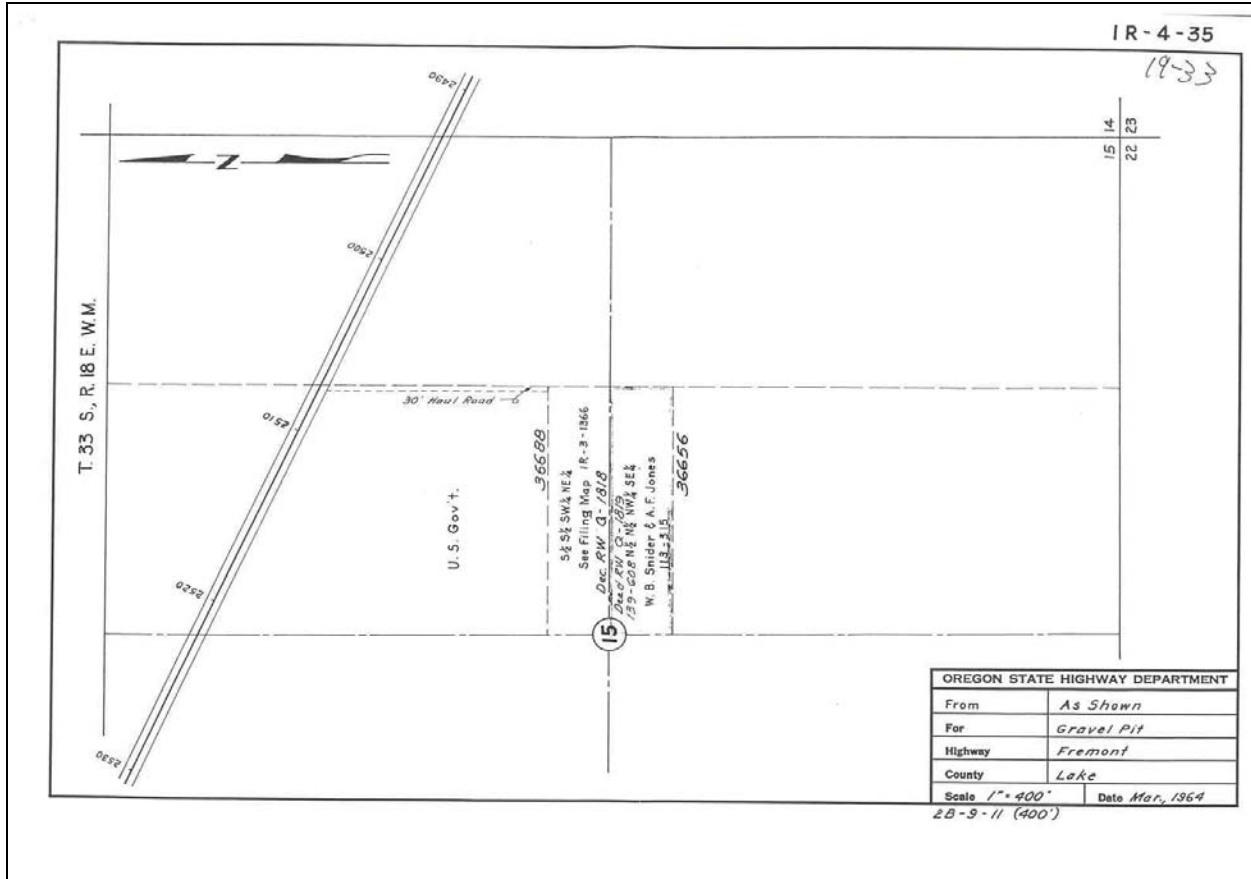
NW

SE



Looking to the northeast at the borrow site located at the base of the fault block.

Close-up view of the gravel at this location, note the larger aggregate size due to the proximity of the site to the range front.



Aerial view of the site and the surrounding area.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake	Narrows Gravel Pit				10	0019	109.59	34S	20.0E	19
File ID		Source #	Date Visited	Map #		Type of Site				
Q0395		19-038-4	07/18/2000	1R-1-1419		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
42 36'17.42929"	120 24'24.18640"	1325.32	80	<50	19-0026					
Comments										
GPS acquired in the first pit.										
Rock Type	Unit	Color	Weathering		Jointing					
Volcanic Gravel	Qs	NA	NA		NA					
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair to Good			NA	120	160,000	259,200				
Potentially Significant Site	Why	Open/Closed		Direction						
No	USA Ground	Closed		To the west about 500 meters is the Chewaucan River.						
Adjacent Land Use										
Open space/Farming										
Remarks										
This site is east of and adjacent to Highway 31. The gravel is composed of a heterogeneous mix of volcanics. The material is predominately pea gravel in size. There is limited screening with plenty of room to work. The terrain is flat. The quantity calculation is based on 10 acres with a 10 foot lift. USA ground.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.336	2.248	29.9	2	2			15.8	0.3		
Material Use										
Emulsified Asphalt Aggregate (1996)										

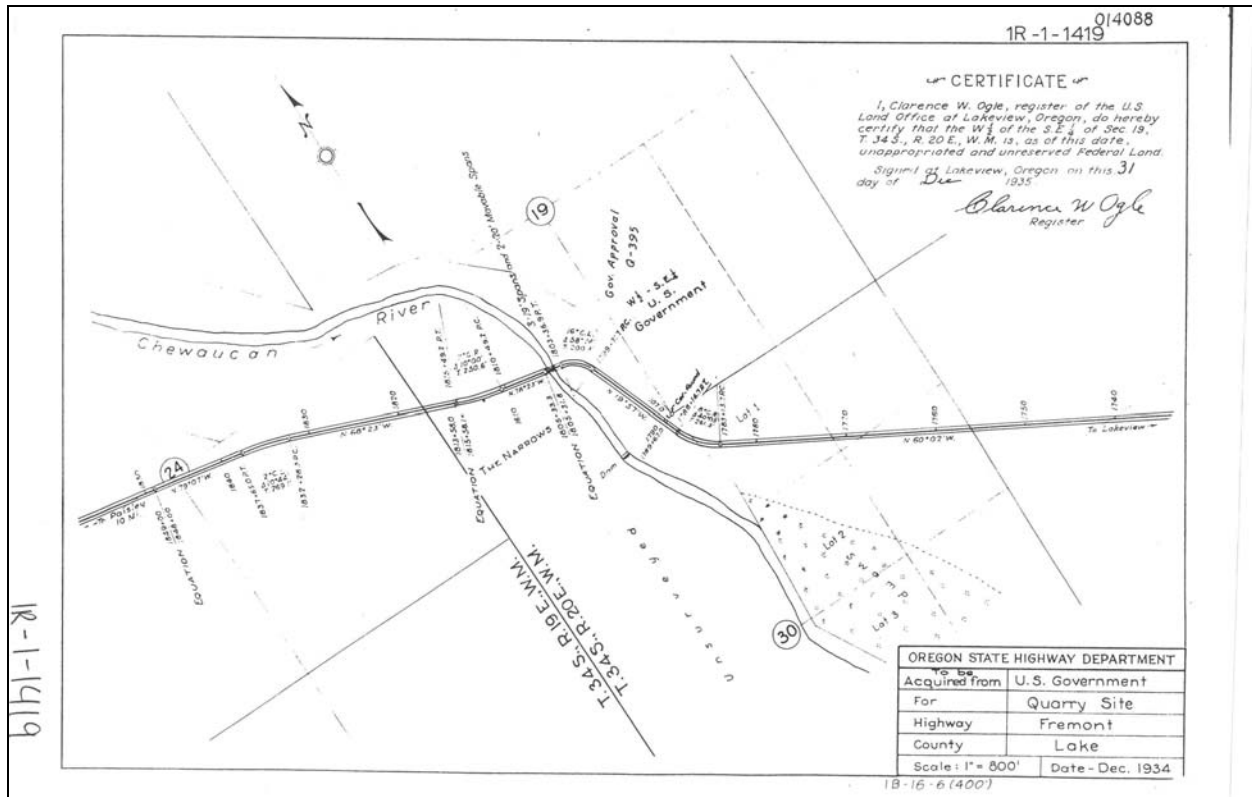
NW

SE



Looking to the northeast at the borrow site along the highway.

Close-up view of the gravel at this location.



Aerial view of the borrow site in relation to the highway and the river.

County	Site Name	Dist	Hwy	Mile Pt	TWP	RGE	Sect	
Lake		10	0019	116.45	35S	20.0E, 21.0E	12, 07	
File ID		Source #	Date Visited		Map #		Type of Site	
37833		19-039-4	07/18/2000		1R-4-323		Raw Land	
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #			
42 33'00.99000"	120 18'25.05000"	1238	80	NA				
Comments								
Lat. and Long. acquired using Terrain Navigator Software								
Rock Type	Unit	Color		Weathering		Jointing		
Soils	Qal	NA		NA		NA		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)		
Unknown			NA	120				
Potentially Significant Site	Why	Open/Closed		Direction				
No	USA Ground	Closed		To the south about 300 meters is the Chewaucan River				
Adjacent Land Use								
Open space								
Remarks								
This is raw land adjacent to Highway 31 on the east side. The terrain is flat with no gravel exposed. There is no screening with plenty of room to work. USA ground.								
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.
2.85	2.71	29.1	2.6	2			18.4	.6
Material Use								
QUARRY ROCK (1995)								

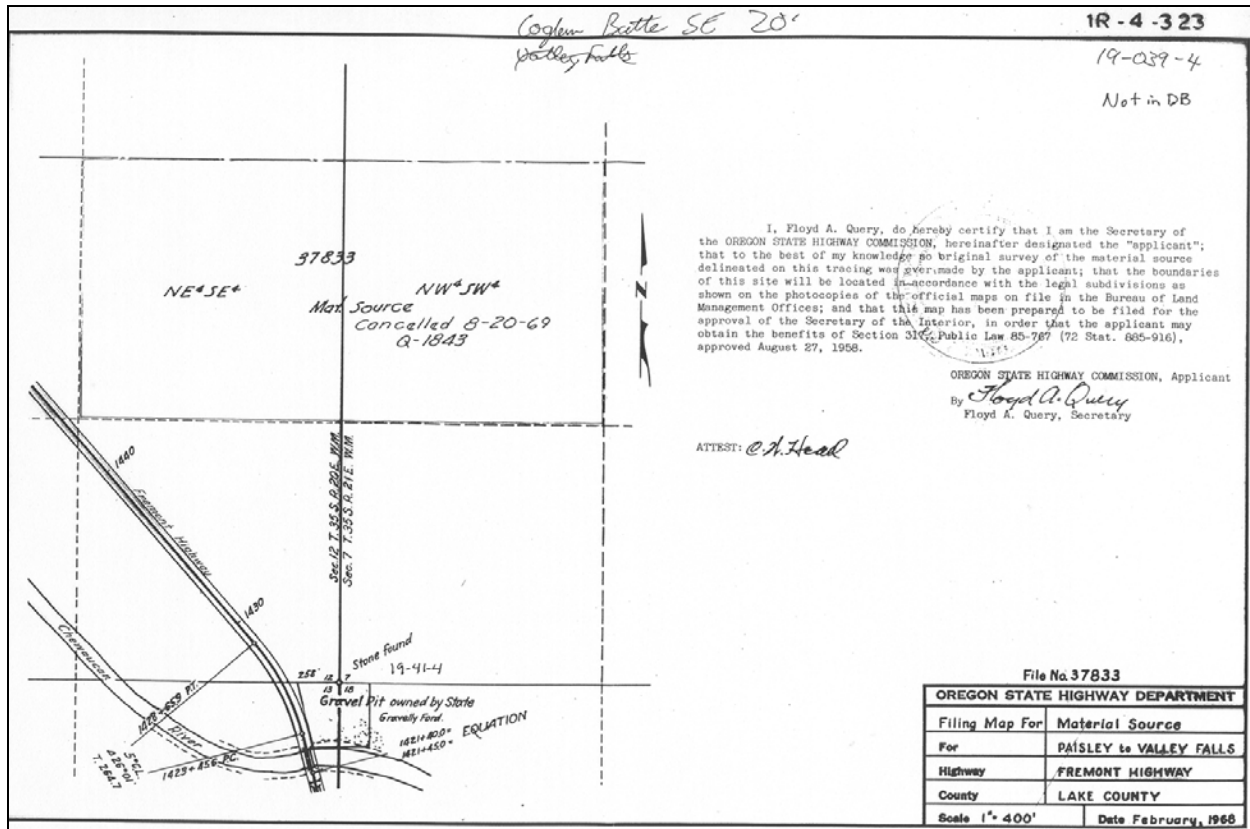
NW

E



Looking to the northeast at the raw land along the highway.

Close-up view of the material at this location.



Aerial view of the raw land site along Highway 31 and the Chewaucan River.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake					10	0019	22.8	25S	12.0E	10
File ID		Source #	Date Visited		Map #			Type of Site		
Q0555		19-074-4	07/21/2000		1R-2-557			Borrow		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 25'04.56066"	121 15'36.84855"	1417.767	160	<5						
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color		Weathering			Jointing			
Volcanic Gravel	Qs	NA		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair to Good			NA	120						
Potentially Significant Site	Why			Open/Closed	Direction					
No	USA Ground			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This is a borrow site located southwest of Highway 31 about 3/10 of a mile. The material is composed of angular volcanic pea gravel (70%) and sand (30%). There is ample room to work and good screening from the highway. The terrain is predominately flat. This would be a good source for fill, shoulder rock or sanding material. The permit for this site has expired. USA ground.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.86	2.66	34	3.5	1	17.6	0.3	29.8	.3		
Material Use										
Quarry Rock (1995)										

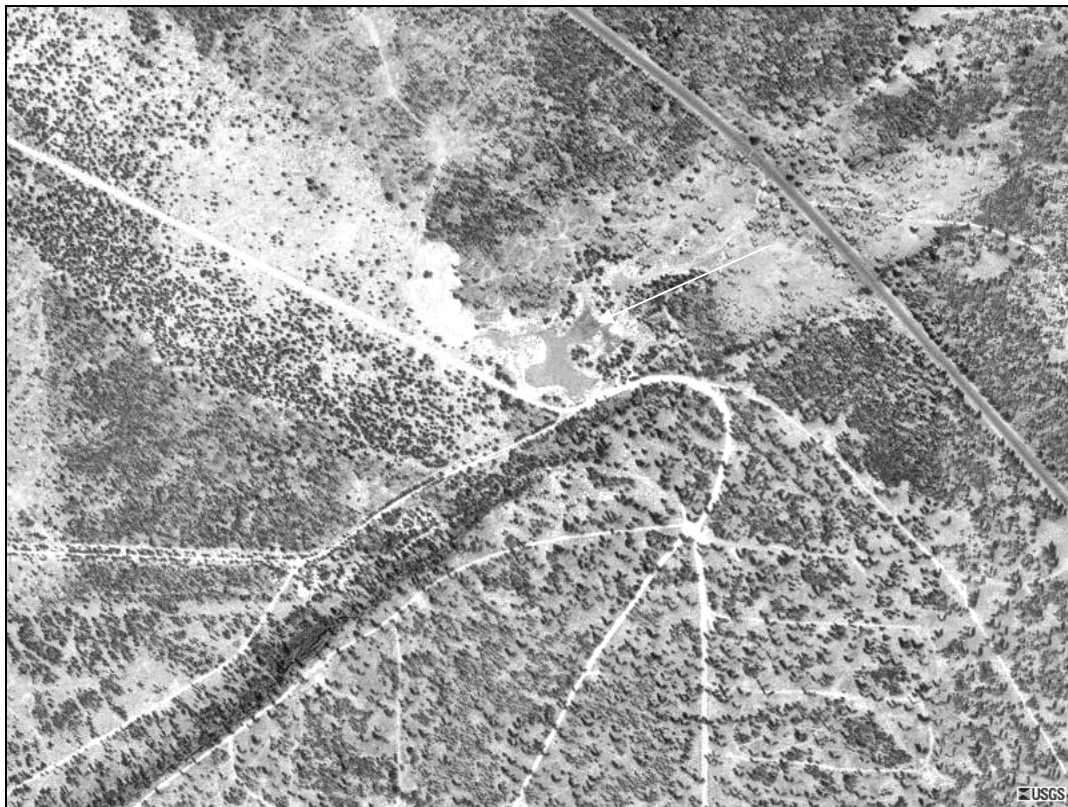
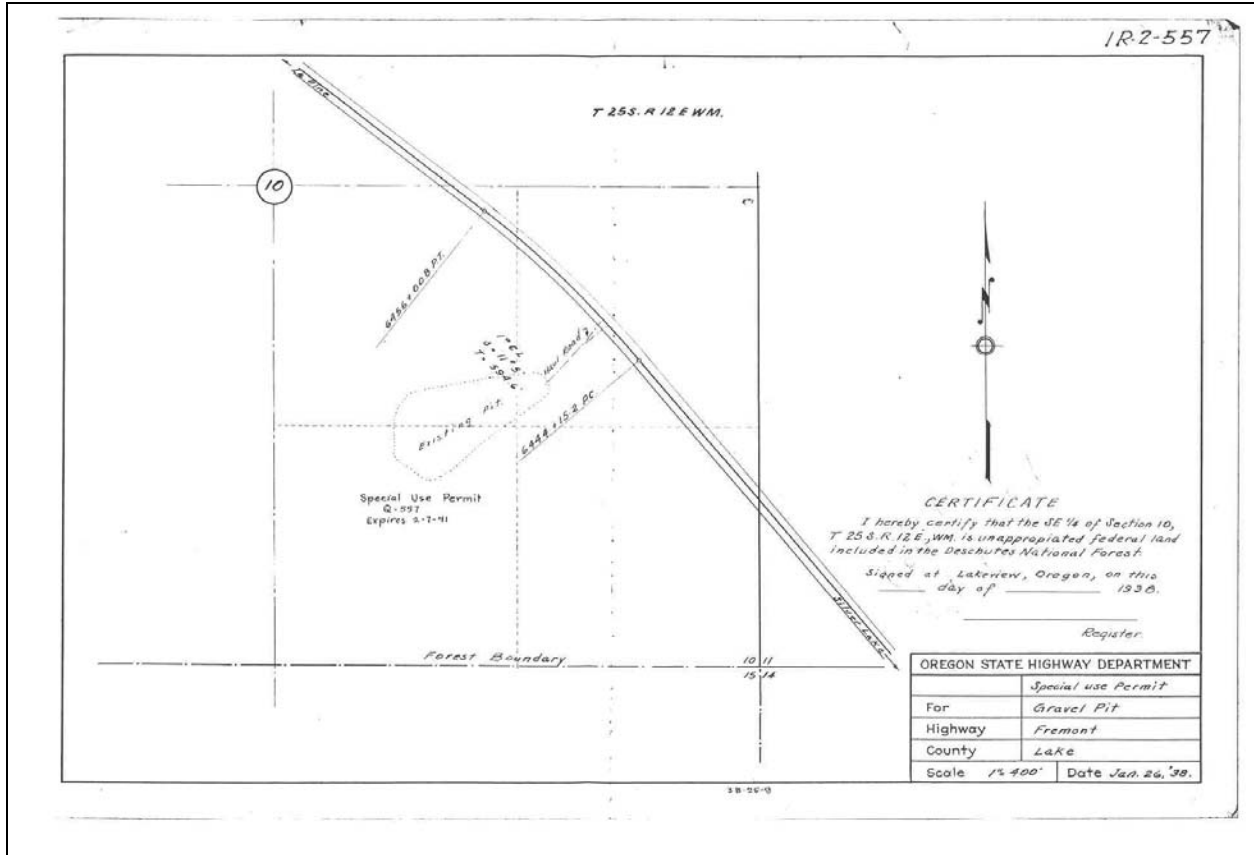
S

NE



Panoramic view of the borrow site located west of Highway 31.

Close-up view of the material at this location.



Aerial view of the borrow site in relation to the surrounding area.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Lake					10	0019	37.9	27S	13.0E	11
File ID		Source #	Date Visited	Map #			Type of Site			
15061		19-902-4	05/08/2001	1R-2-1920			Raw Land			
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
43 14'11.14000"	121 08'45.96000"	1379	80	NA						
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type	Unit	Color		Weathering			Jointing			
Basalt	Tob	NA		NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair			NA	150	400,000	810,000				
Potentially Significant Site	Why			Open/Closed	Direction					
No	USA Ground			Closed	NA					
Adjacent Land Use										
Open Space										
Remarks										
This site is located on both sides of Highway 31. This is rawland with limited exposures to evaluate the rock. There are thin basalt flows capping the ridge east of the highway. The terrain is gradual with room to work, but no screening. The site is located on a scenic highway.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

SE



View of the raw land located on either side of Highway 31.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Wasco					10	0004	70.58	08S	15.0E	15
File ID		Source #	Date Visited	Map #		Type of Site				
Q0370		33-040-4	7/14/1999	1R-1-1334		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 52'32.49836"	120 55'43.39131"	872.015	3.38	<1						
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color		Weathering		Jointing				
Basalt	Tcg	Medium Dark Grey (N4)		Slight to Fresh		Highly Fractured				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good to Fair			R4	182	70,000	171,990				
Potentially Significant Site	Why			Open/Closed	Direction					
No	Too small			Closed	NA					
Adjacent Land Use										
Open range										
Remarks										
This is a fine-grain basalt on the old alignment just west of Highway 97. There is good screening from this site but not much room to work. You will need to drill and blast here. Most of the site has been filled in with waste material. If this site is to be used in the future a new easement should be developed. We should also block off the old alignment so access is restricted to the public.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

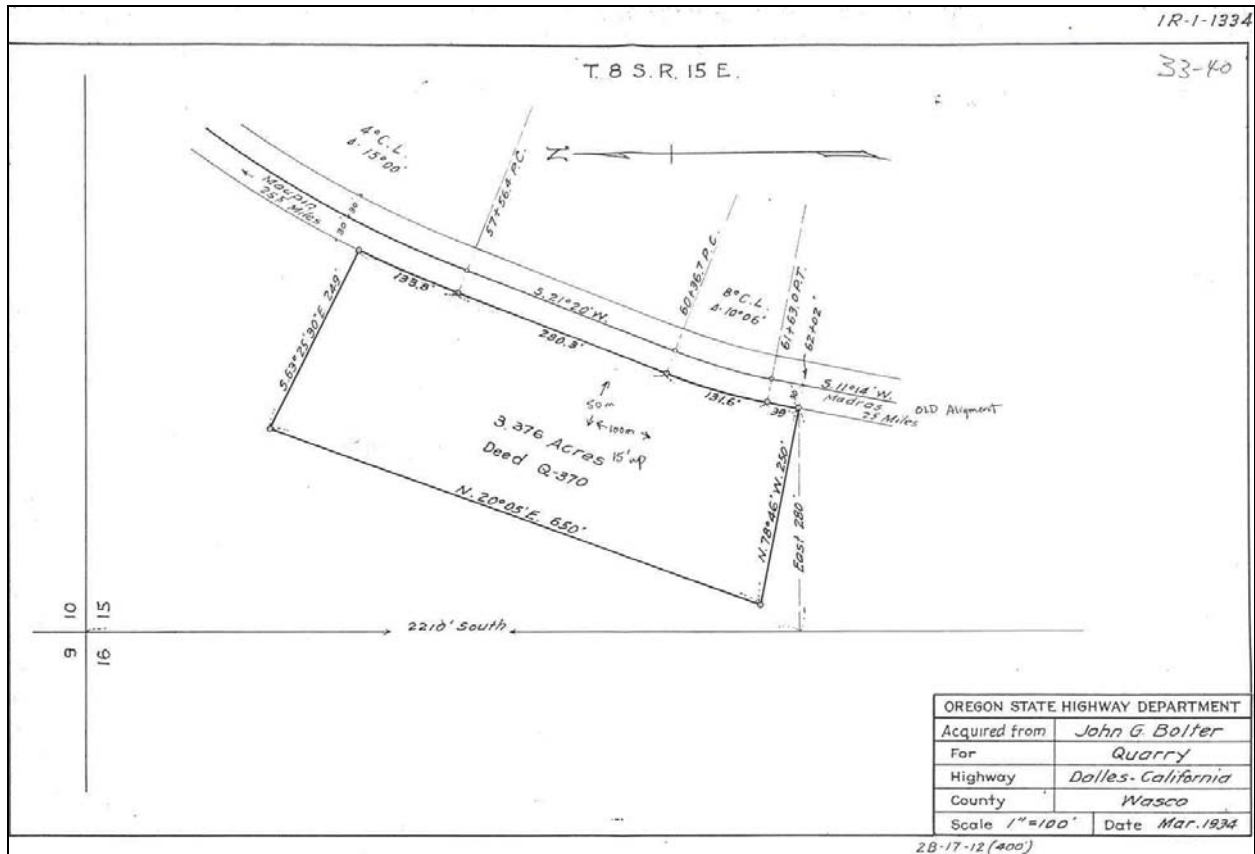
W



Looking west at the quarry off of the old highway alignment.

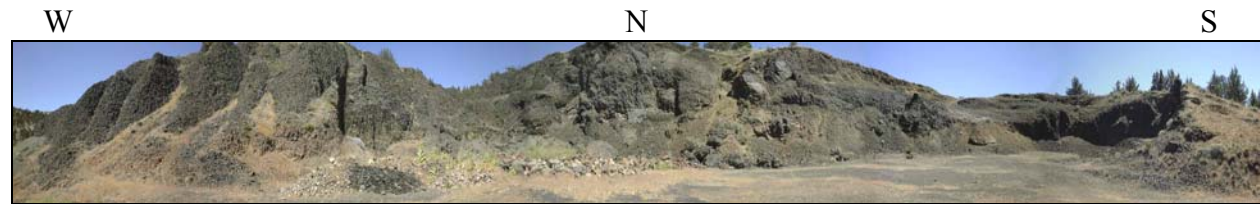


Close-up view of the fracture pattern at the pit face.

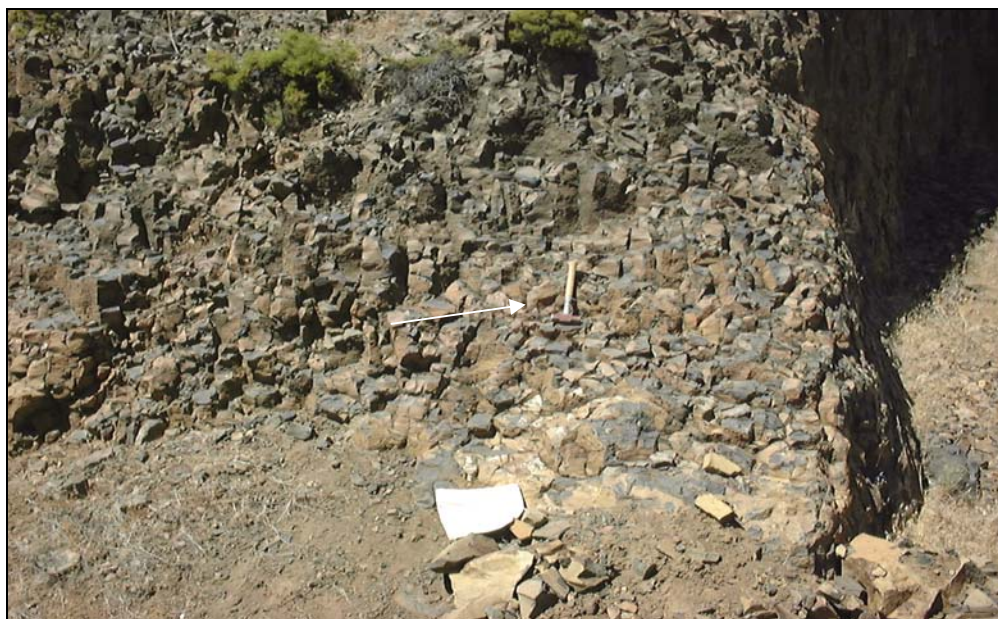


Aerial view of the quarry site along Highway 97.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Wasco	Bolter Quarry Site				10	0004	71.56	08S	15.0E	22
File ID		Source #	Date Visited	Map #		Type of Site				
21841, 21842		33-041-4	7/14/1999	1R-5-528		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 51'40.0744"	120 55'32.24451"	772.845	16.53	<4	33-0075					
Comments										
GPS acquired at the easement and Highway 97										
Rock Type	Unit	Color		Weathering		Jointing				
Basalt	Tcg	Medium Dark Grey (N4)		Fresh		Moderate to Highly Fractured				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Very Good			R4	182	300,000	737,100				
Potentially Significant Site	Why				Open/Closed		Direction			
Yes	Good quality, quantity, and adjacent to Highway 97.				Closed		NA			
Adjacent Land Use										
Open space										
Remarks										
This site is adjacent to and east of Highway 97. The rock is a fine-grain basalt that is highly fractured. There is little to no overburden here at this site. There is some screening from the highway with some room to work. The entrance could restrict major production due to its narrow size. The terrain is steep to very steep in the canyon. All future work should be from the top of the property and work down to the road level. This site has a locked gate and some fencing. Minor waste site in the upper pit, and some sanding material in the lower pit. The benches are a little too tall for safety reasons. They should be reduced the next time we go into this site for aggregate production.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.76	2.81	15.7	2.4				13.0	.1		
Material Use										
Quarry Rock (1995)										



Panoramic view of the quarry site along Highway 97.



Close-up view of the jointing pattern within the basalt.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Wheeler					10	0041	53.7	12S	20.0E	08
File ID		Source #	Date Visited		Map #			Type of Site		
15911		35-012-4	06/06/2000		1R-2-1992			Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 32'40.94789"	120 21'45.8512"	1219.965	10	<1						
Comments										
GPS acquired in the pit.										
Rock Type		Unit	Color		Weathering			Jointing		
Basalt/Basaltic Andesite		Tca	Medium Dark Grey (N4)		Slight to Moderate			Highly Fractured		
Quality			Hardness	lbs./cu ft.	Reserve (cy)		Reserve (Tons)			
Fair to Poor			R2 to R3	168	200,000		453,600			
Potentially Significant Site	Why			Open/Closed	Direction					
No	Poor quality rock			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This site is located northwest of Highway 26 about 200 meters. This is a fine-grain basalt that is highly fractured and has moderate secondary alteration. There is a moderate amount of weathering. There are tuff beds intermixed, so the structure is most likely complex. There is room to work with good screening. The terrain is gradual. There are dikes cross-cutting the basalt. You can rip the rock and produce minor rip rap.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	2.61	13.6								
Material Use										
Maintenance and Oiling Rock(1950)										

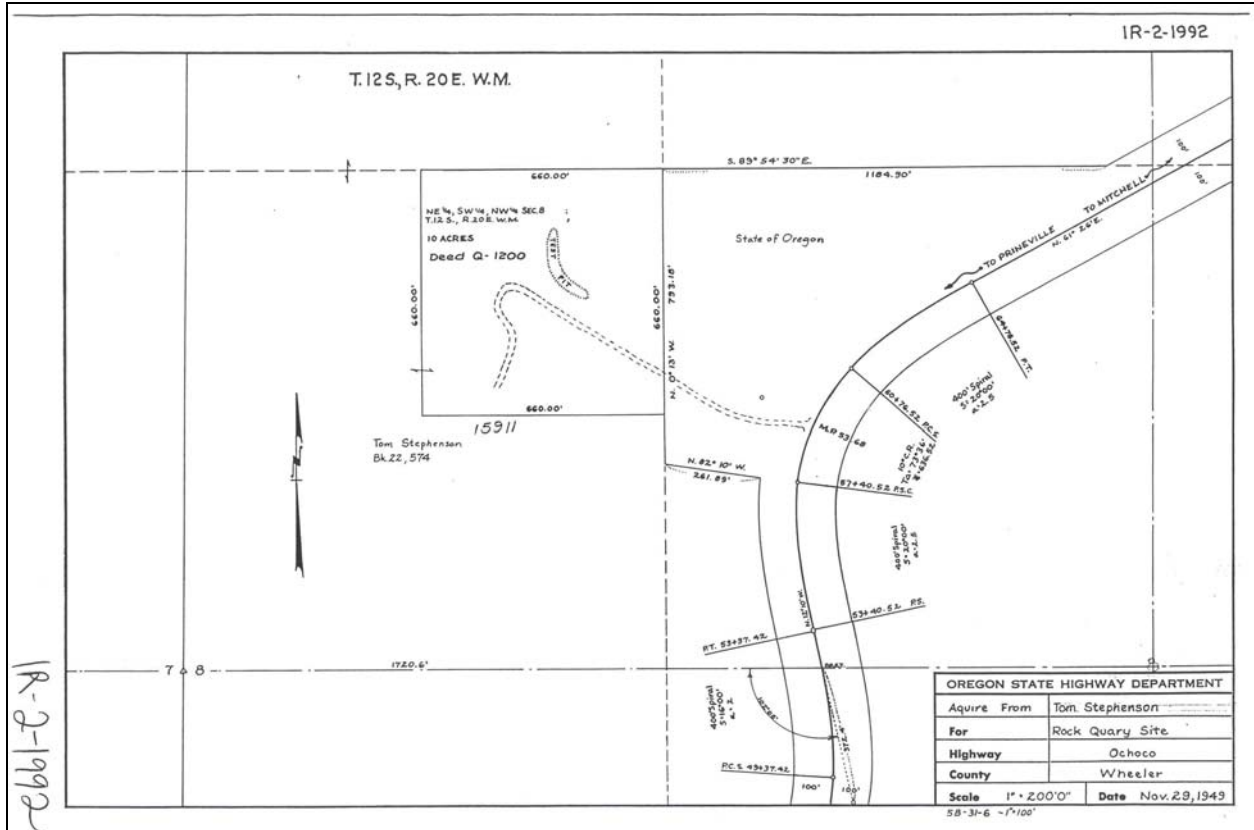
NW

SE



Looking to the northeast at the small quarry site along Highway 26.

Close-up view of the highly fractured basalt at this location.



1R-2-1992



Aerial view of the quarry site along Highway 26.

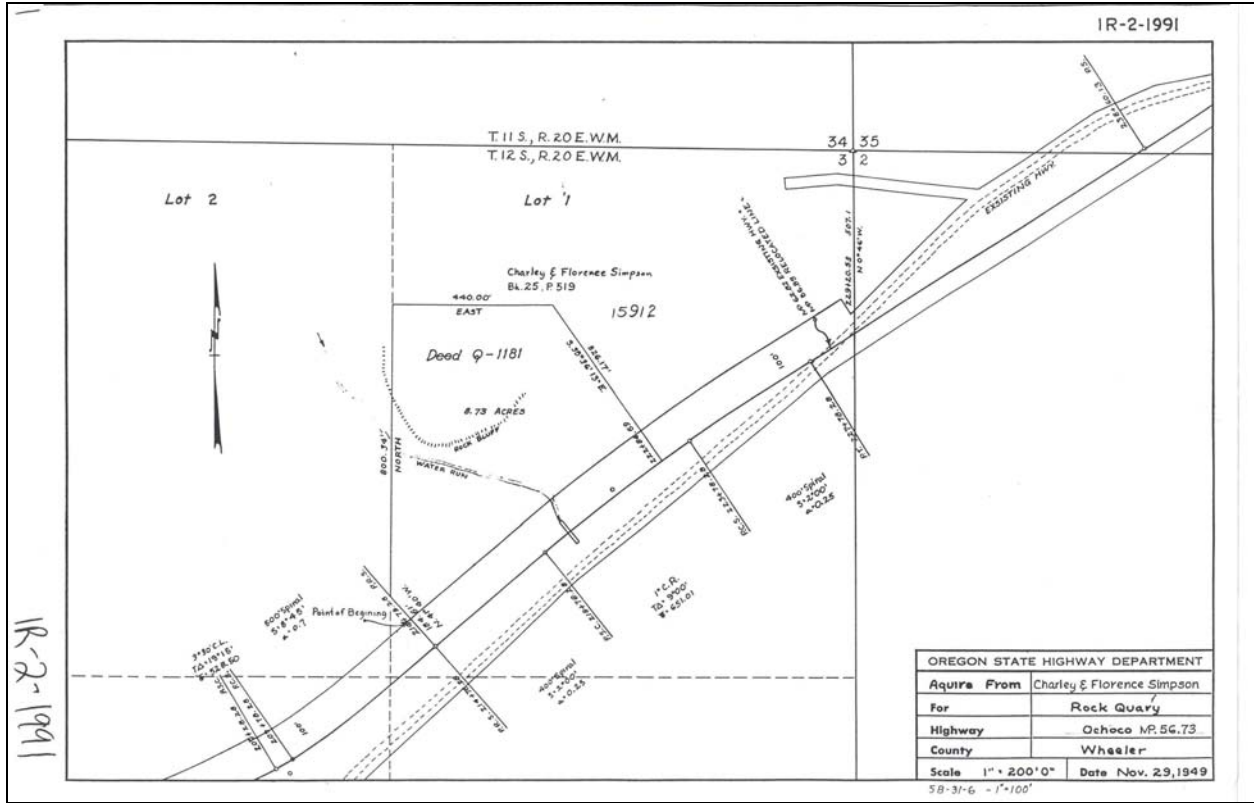
County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Wheeler					10	0041	56.7	12S	20.0E	03
File ID		Source #	Date Visited	Map #		Type of Site				
15912		35-013-4	06/06/2000	1R-2-1991		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 33'40.31348"	120 18'35.60078"	916.011	8.73	<1						
Comments										
GPS acquired along the road to the pit.										
Rock Type	Unit	Color		Weathering			Jointing			
Andesite	Tca	Pale Olive (10Y 6/2)		Fresh to Decomposing			Highly Fractured to Massive			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair to Good			R1 to R4	150	100,000	202,500				
Potentially Significant Site	Why			Open/Closed	Direction					
NA	NA			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This site is located north of Highway 26 about 50 meters. The rock is a fine to medium-grain andesite. There is limited room to work with fair screening from highway. The terrain is very steep to vertical with a very dangerous face. The rock can be very friable to extremely hard. It can be very blocky and sharp. You will need to drill and blast. We should develop a site plan to work from the top down at this location.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
		13.6								
Material Use										

NE



Looking to the northeast at the quarry site.

Close-up view of the jointing pattern in the andesite, with the hammer for scale.



Aerial view of the quarry site along the highway.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Wheeler					10	0041	59.7	11S	20.0E	25
File ID		Source #	Date Visited	Map #		Type of Site				
19333,16043, 6005005		35-014-4	06/06/2000	1R-2-2510		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 35'25.67254"	120 15'58.14379"	805.586	14.1	NA	35-0021					
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color		Weathering		Jointing				
Andesite	Tca	Greenish Grey (5GY 6/1)		Moderate to Fresh		Massive to Highly Fractured				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair to Good			R3	161	484,000	1,051,974				
Potentially Significant Site	Why			Open/Closed	Direction					
No	NA			Closed	Adjacent to Branch Bridge Creek					
Adjacent Land Use										
Open space, ranch 750 meters to the southwest.										
Remarks										
This site is located adjacent to and south of Highway 26. The rock is a fine to medium-grain andesite with minor hydrothermal alteration along fracture boundaries. The andesite is very massive (rip rap) to highly fractured. A lot of the minerals are going to secondary alteration. There is room to work with no screening. You can rip the material but should drill and blast it.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.510	2.58	16.0.	10.7	2.6			14.8	1.8		
Material Use										
CHIP SANDING (1989)										

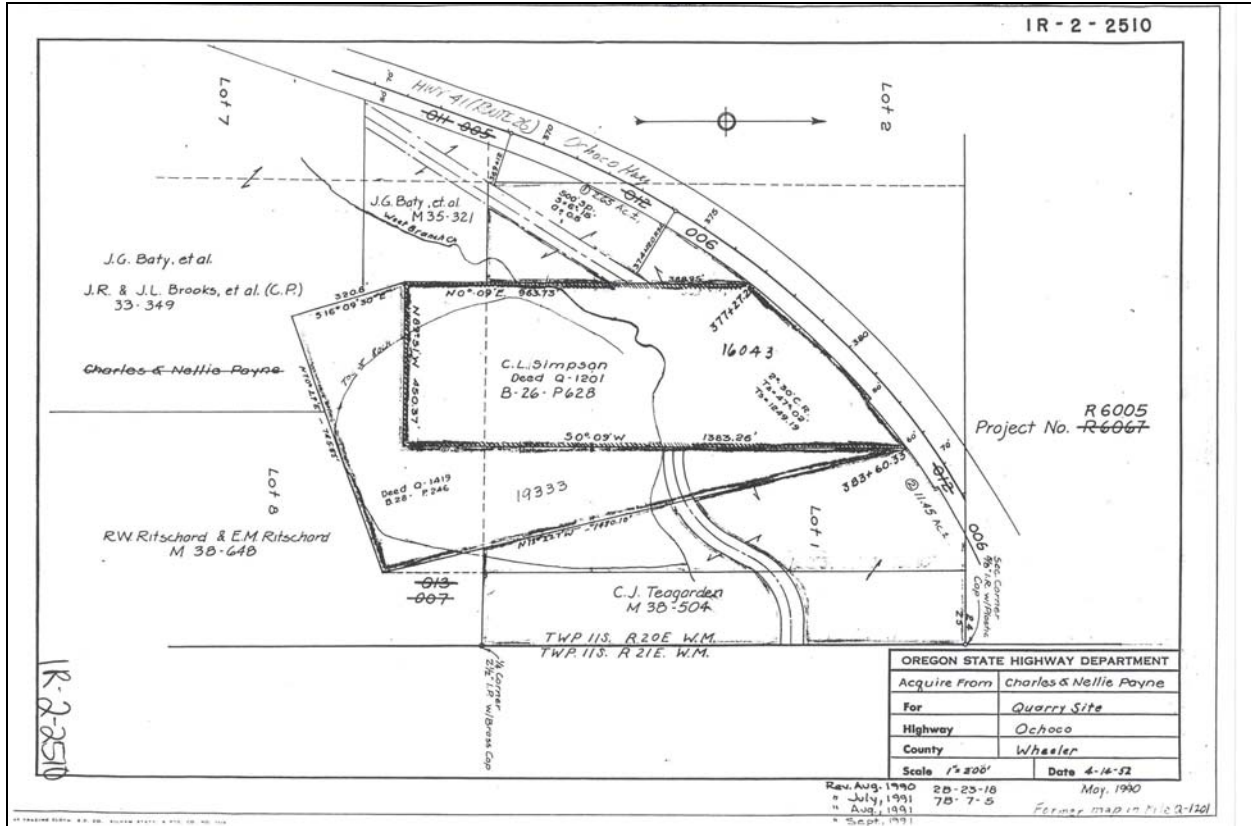
N

E



Looking to the northeast at the quarry site that is adjacent to Highway 26.

Close-up view of some of the rip rap at this location, note the secondary alteration within the andesite.

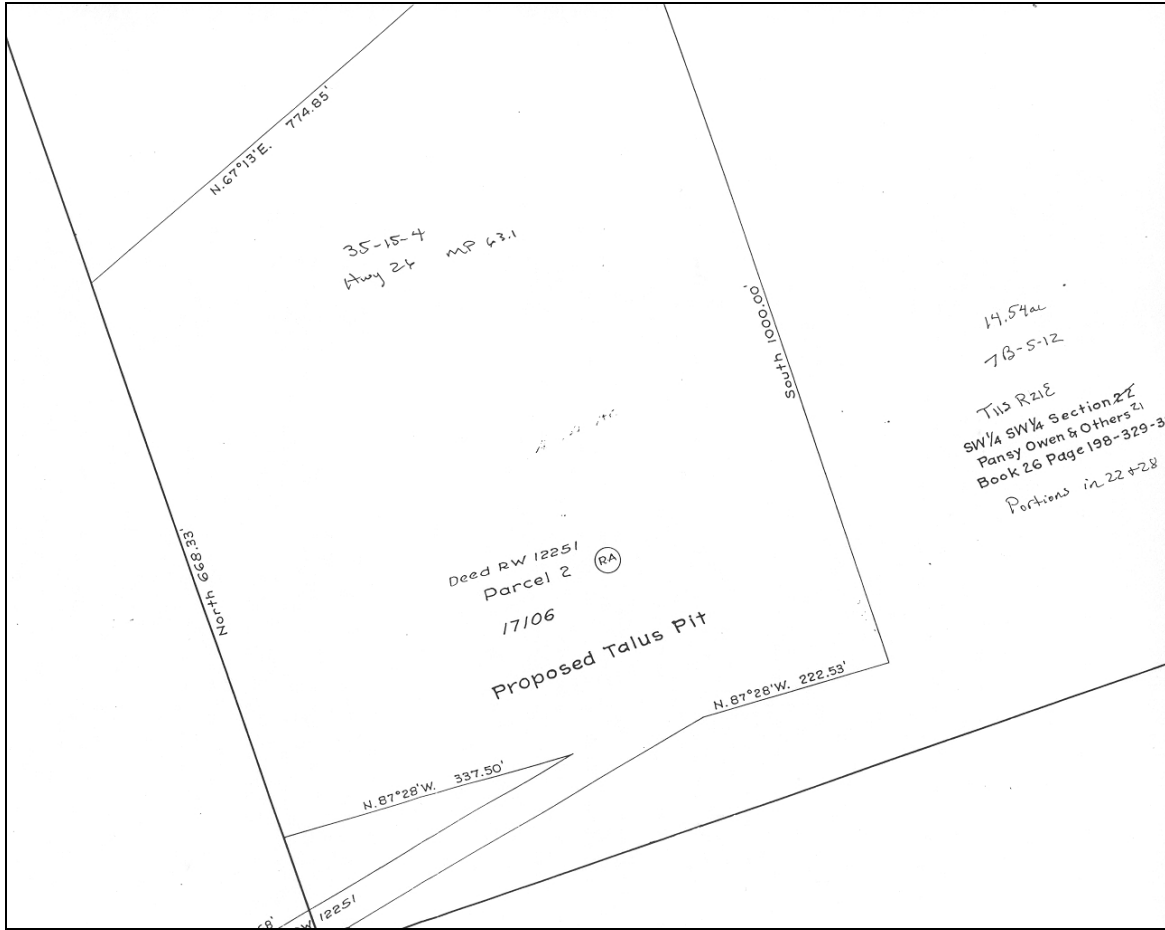


Aerial view of the quarry site located adjacent to the highway.

County	Site Name	Dist	Hwy	Mile Pt	TWP	RGE	Sect	
Wheeler		10	0041	63.09	11S	21.0E	21, 22, 28	
File ID		Source #	Date Visited	Map #		Type of Site		
17106		35-015-4	09/14/2000	7B-5-12		Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #			
44 35'33.70000"	120 12'26.39000"	792	14.54	<1				
Comments								
Lat. and Long. acquired using Terrain Navigator Software								
Rock Type	Unit	Color	Weathering		Jointing			
Basalt	Tvi?	NA	NA		NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)		
Fair			NA	155	400,000	837,000		
Potentially Significant Site	Why			Open/Closed	Direction			
No	NA			Closed	South about 250 meters is Bridge Creek.			
Adjacent Land Use								
Open space/Rural Residential								
Remarks								
This site is north of Highway 26. The gate was locked and I had no access. The material acquired at this site is from a talus slope. The terrain is quite steep (>35 degrees), and the removal at the base of the slope is very dangerous. If we do work here it should be from the top down. The plot map does not show me the location of the site within the sections.								
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.
	2.64	15.82			16.98	1.7		
Material Use								
PIT RUN BASE, OIL ROCK (1979)								



Looking to the northwest at the talus slope at the base of the hill.



Aerial view of the quarry site along Highway 26.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Wheeler	Keys Quarry			10	0041	69.1	11S	22.0E	33
File ID		Source #	Date Visited	Map #			Type of Site		
Q0238, 11284		35-016-4	06/06/2000	1R-1-1006, 1R-2-1443			Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 33'59.23656"	120 06'02.75220"	1018.742	6.3	NA		35-0026			
Comments									
GPS acquired at the gate.									
Rock Type	Unit	Color		Weathering			Jointing		
Andesite	Tca	Pale Olive (10Y 6/2)		Moderate			Highly to Moderately Fractured		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Fair			R2 to R3	153					
Potentially Significant Site	Why			Open/Closed	Direction				
No	NA			Closed	NA				
Adjacent Land Use									
Open space, ranch 700 meters away									
Remarks									
This site is located adjacent to and north of Highway 26. The lithology comprises debris flows (poor), porphyritic andesite (fair to poor), and a fine-grain basalt (good). The ground has been reclaimed from past work and is used as a stock pile/ waste site now. Part of the ground is adjacent to Highway 26 and is a road cut. There is some screening with ample room to work. The terrain has a gradual slope to it. The gate was open when I visited the site.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
2.7	2.72	17.0	13.6	6.6			15.3	1.3	
Material Use									
AC, CTB BASE (1988)									

SW

NE



Looking to the west at the reclaimed site and the stockpile site along Highway 26.

Close-up view of the platy fracture pattern in the basalt at this location.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Wheeler	Mitchell Remote & Radio			10	0041	73.2	12S	22.0E	2
File ID		Source #	Date Visited	Map #			Type of Site		
26070		35-017-4	06/06/2000	1R-2-482			Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 33'05.37204"	120 02'29.34688"	1331.705	37.21	<1		35-0030			
Comments									
GPS acquired at the access gate.									
Rock Type	Unit	Color		Weathering			Jointing		
Andesite	Tca	Dark Greenish Grey (5G 4/1)		Slight			Highly Fractured		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Fair to Good			R3+	160	484,000	1,045,440			
Potentially Significant Site	Why			Open/Closed	Direction				
No	NA			Closed	NA				
Adjacent Land Use									
Open space									
Remarks									
This site is at the Keys Summit, located south of Highway 26 about 150 meters. The rock is a medium-grain andesite that has moderate mineral alteration. It is highly fractured with some slight weathering. Some of the andesite is porphyritic. There could be up to 3 feet of overburden at this location. There is plenty of room to work with good screening. The terrain is fairly flat. You can rip the rock. There was water in the pit at the time of the visit.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
	2.54	18.02			23.1	4.0			
Material Use									
Surfacing (1974)									

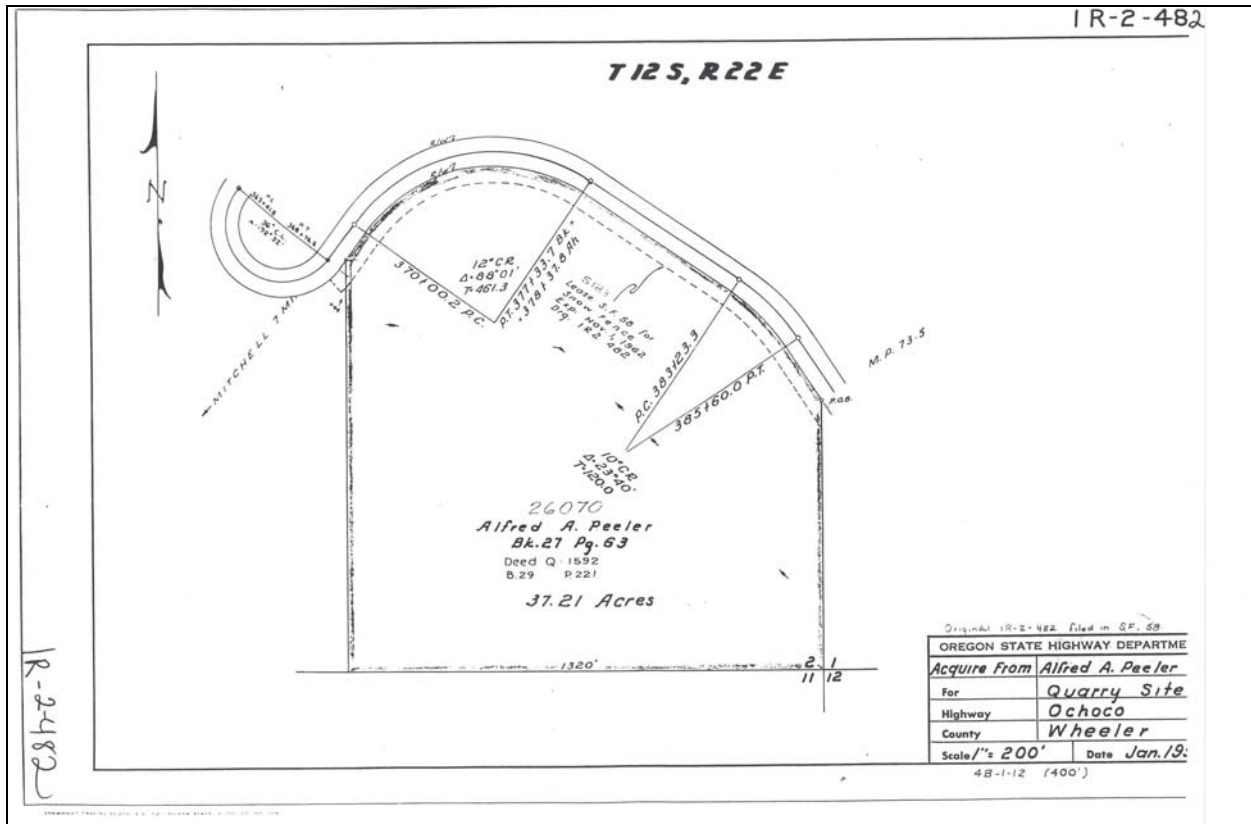
S

NE



Looking northwest at the small disturbance at the quarry site.

Close-up view of the fracture pattern in the basalt with the hammer for scale.

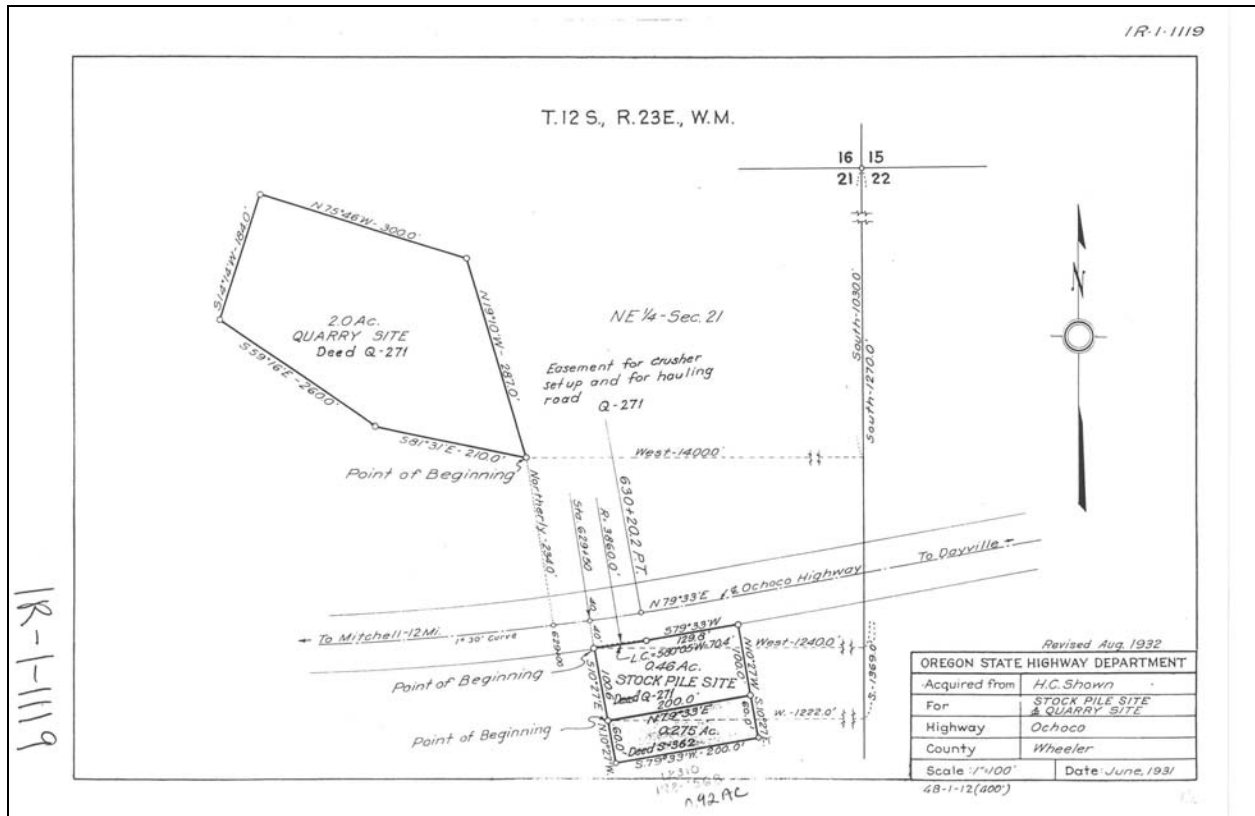


Aerial view of the quarry site in relation to the highway and the surrounding area.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Wheeler				10	0041	78	12S	23.0E	21
File ID		Source #	Date Visited	Map #			Type of Site		
Q0271,SP362, Q0257		35-020-4	06/07/2000	1R-1-1119			Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 31'07.56000"	119 58'02.48000"	1219	2	<1					
Comments									
Lat. and Long. acquired using Terrain Navigator Software									
Rock Type	Unit	Color		Weathering			Jointing		
Basalt	Tcp			Slight			Highly to Moderately Fractured		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Good to Fair			R3	155	30,000	62,775			
Potentially Significant Site	Why			Open/Closed	Direction				
No	NA			Closed	NA				
Adjacent Land Use									
Ranching									
Remarks									
This site is located north of Highway 26 about 150 meters. The access has been fenced and there was no way for me to get to this site. I evaluated the basalt exposed along the road cut were the easement should be. I acquired images of the site from the highway. The stock pile site along the highway was not evident either.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
Material Use									



Looking north at the quarry from Highway 26.



Aerial view of the quarry site in relation to the surrounding terrain.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Wheeler	Antone Quarry				10	0041	81.6	12S	24.0E	18
File ID		Source #	Date Visited	Map #		Type of Site				
Q0257, 17027		35-021-4	06/07/2000	1R-1-1007, 1R-5-87		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 31'33.28148"	119 53'24.70933"	1174.331	13.89	<4						
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color		Weathering			Jointing			
Basalt	Tcp	Medium Dark Grey (N4)		Fresh			Moderately Fractured			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			R3	175	220,000	519,750				
Potentially Significant Site	Why			Open/Closed	Direction					
No	NA			Closed	North about 400 meters is Mountain Creek					
Adjacent Land Use										
Open space/Ranching										
Remarks										
This site is located south of and adjacent to Highway 26. The rock is a fine to medium-grain basalt with some phenocrysts of plagioclase and visible olivine crystals. There is no screening and plenty of room to work. You can rip the material. Fairly flat terrain. The bridge to the quarry will need some future work. There is no overburden.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
2.837	2.866	15.1	4.0	2.0	12.6	8.0	16.7	8.0		
Material Use										
QUARRY ROCK (2001)										

S

NW



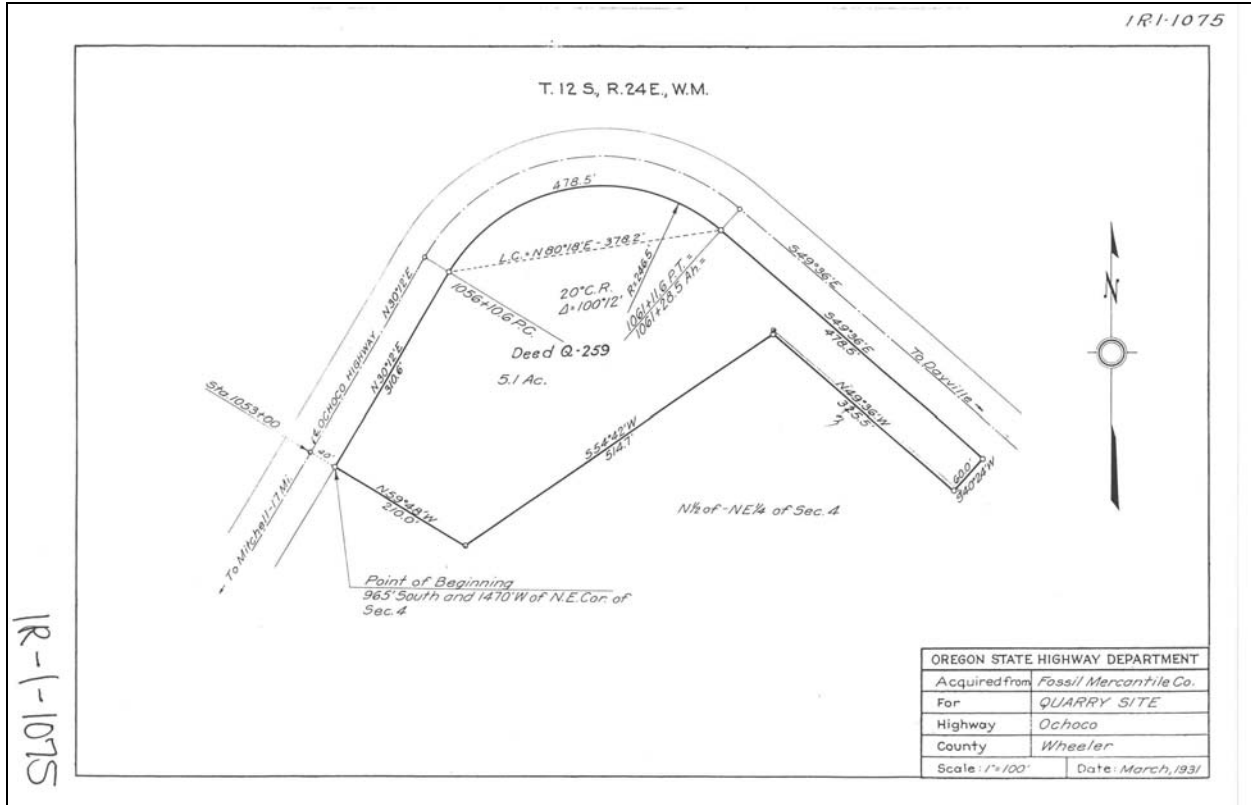
Looking to the west at the quarry site along the highway.

Close-up view of the basalt at this location.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Wheeler	Johnson Quarry				10	0041	86.1	12S	24.0E	04
File ID		Source #	Date Visited	Map #		Type of Site				
Q0259		35-022-4	06/07/2000	1R-1-1075		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 33'42.51000"	119 50'27.09000"	1097	5.1	<1						
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type	Unit	Color		Weathering			Jointing			
Basalt	Tcp	Medium Dark Grey (N4)		Slight to Fresh			Moderate to Highly Fractured			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			R3	170	120,000	275,400				
Potentially Significant Site	Why			Open/Closed	Direction					
No	NA			Closed	Adjacent north to Mountain Creek					
Adjacent Land Use										
Open space										
Remarks										
This site is located south of Highway 26 about 50 meters. There is no access to the property across Mountain Creek for rock removal. There is a small pit at this location. The terrain is very steep with no room to work and no screening. The rock is a good quality basalt but it is too difficult to get to and remove.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										



Looking to the south at the quarry site up on the side of the hill.



Aerial view of the quarry site in relation to the highway and Mountain Creek.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Wheeler	Snow Quarry Site				10	0041	93.7	12S	25.0E	15, 16
File ID		Source #	Date Visited	Map #		Type of Site				
Q0262, Q0258		35-023-4	06/07/2000	1R-1-1074		Road Cut				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 31'17.61000"	119 42'51.02000"	844	1.9	NA						
Comments										
Lat. and Long. acquired using Terrain Navigator Software										
Rock Type	Unit	Color		Weathering			Jointing			
Basalt	Tcp	Medium Dark Grey (N4)		Fresh to Decomposing			Highly Fractured			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good to Fair			R3+ to R0	120	45,000	72,900				
Potentially Significant Site	Why			Open/Closed	Direction					
No	NA			Closed	North across Highway 26 is Mountain Creek					
Adjacent Land Use										
Open space										
Remarks										
This site is a road cut along Highway 26. If we straighten out the radius here we can acquire a small amount of aggregate. Some of the basalt is good quality but mixed in are some decomposing dikes and/or debris flows. There is no room to work and no screening from the highway.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
Material Use										

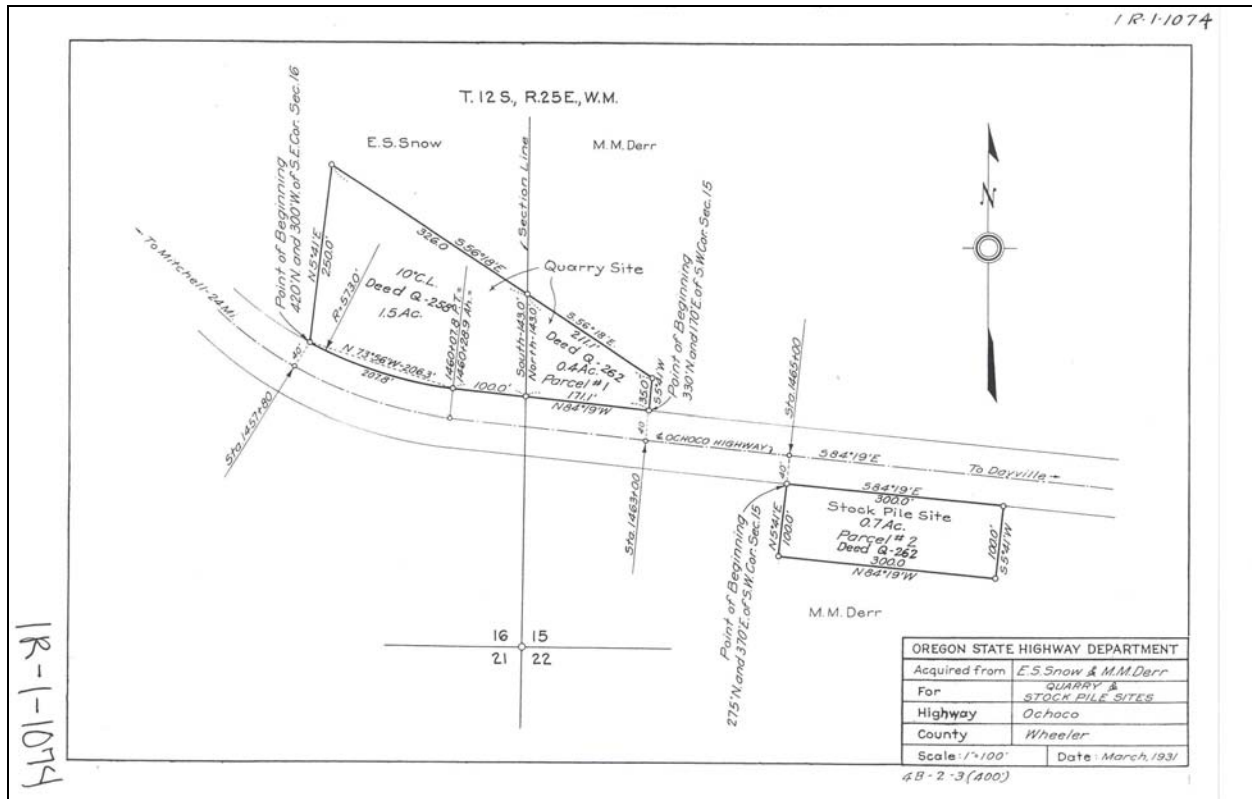
W

NE



Looking to the north at the very small aggregate site adjacent to Highway 26.

Close-up view of the fracture pattern at this location.



Aerial view of the road cut along the highway.

County	Site Name	Dist	Hwy	Mile Pt	TWP	RGE	Sect	
Wheeler		10	0390	7	10S	22.0E, 23.0E	01, 06	
File ID		Source #	Date Visited		Map #		Type of Site	
37942		35-029-4	06/07/2000		1R-4-130		Quarry	
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #			
44 43'30.79093"	120 01'13.07566"	888.807	10.63	<1				
Comments								
GPS acquired in the pit.								
Rock Type	Unit	Color		Weathering		Jointing		
Basalt	Tcp	Olive Grey (5Y 4/1)		Slight		Highly Fractured		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)		
Fair			R3	187	200,000	504,900		
Potentially Significant Site	Why			Open/Closed	Direction			
No	NA			Closed	NA			
Adjacent Land Use								
Ranching								
Remarks								
This site is located southeast of Highway 207 about 250 meters. There is a stock pile site adjacent to the highway. You must go through two gates to get to the quarry. The rock is a medium-grain basalt with 40% of the minerals going to clays. The basalt is highly fractured and breaks into platy pieces. There is plenty of room to work, with some screening. There is no overburden. You can rip the rock and get minor rip rap. The terrain is fairly flat, about 2 to 3 degree slope.								
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.
		16.3					17.1	3.2
Material Use								

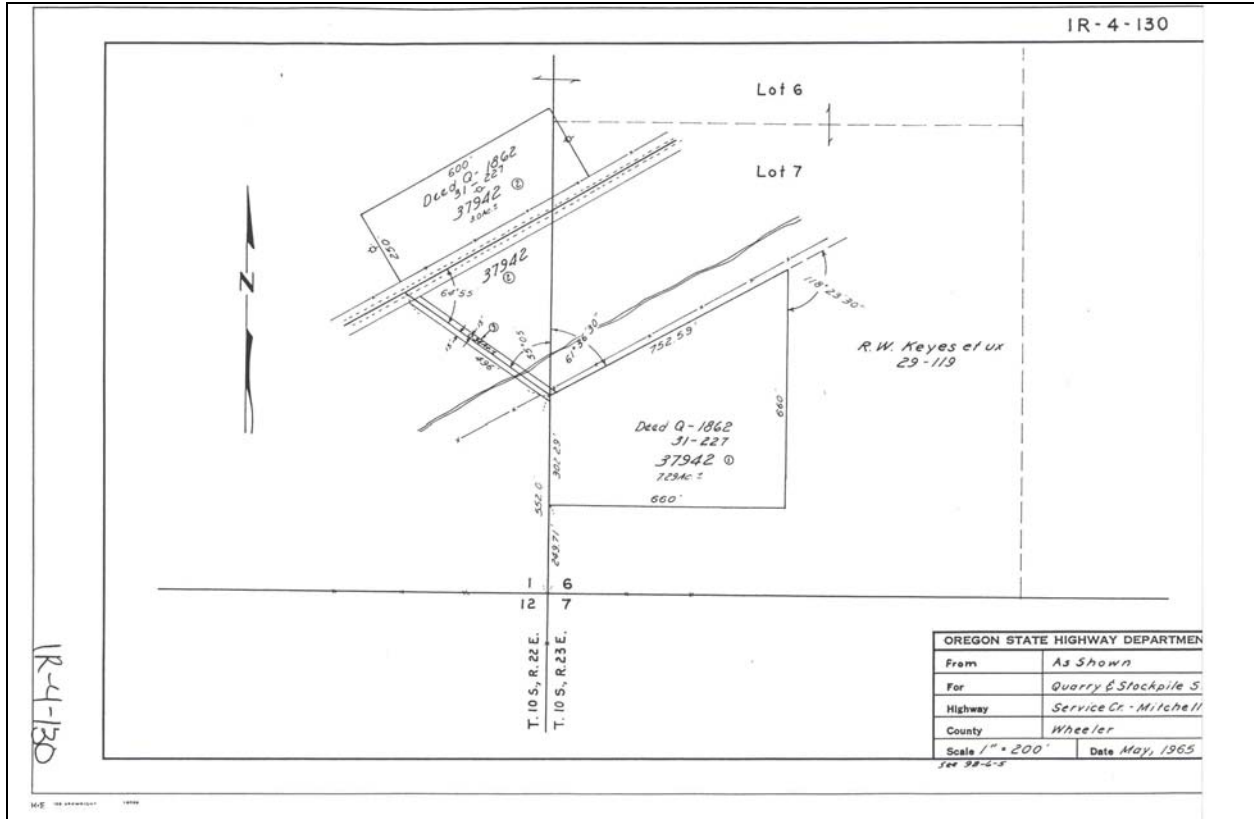
NW

SE



Looking to the east at the quarry site near Highway 207.

Close-up view of the fracture pattern in the basalt.



Aerial view of the quarry site and the access from Highway 207.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Wheeler					10	0390	15	10S	22.0E	32
File ID		Source #	Date Visited	Map #		Type of Site				
11836		35-030-4	06/07/2000	1R-2-1513		Quarry				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 39'50.96108"	120 07'10.70709"	954.34	13.22	<1						
Comments										
GPS acquired in the pit.										
Rock Type	Unit	Color		Weathering		Jointing				
Basalt	Tcp	Medium Dark Grey (N4)		Slight to Moderate		Highly Fractured				
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Fair to Poor			R3	155	160,000	334,800				
Potentially Significant Site	Why			Open/Closed	Direction					
No	NA			Closed	West across Highway 207 is Girds Creek					
Adjacent Land Use										
Farming/ ranching/ open space										
Remarks										
This site is located adjacent to and north of Highway 207. The rock is a fine-grain basalt that is very fractured along mineral boundaries. This helps to produce a very platy basalt. There is moderate weathering with some of the rock decomposing. The good basalt is very brittle. There is no room to work and no screening. The terrain is very steep to vertical with no overburden.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	2.71	19.0			17.82	1.4				
Material Use										

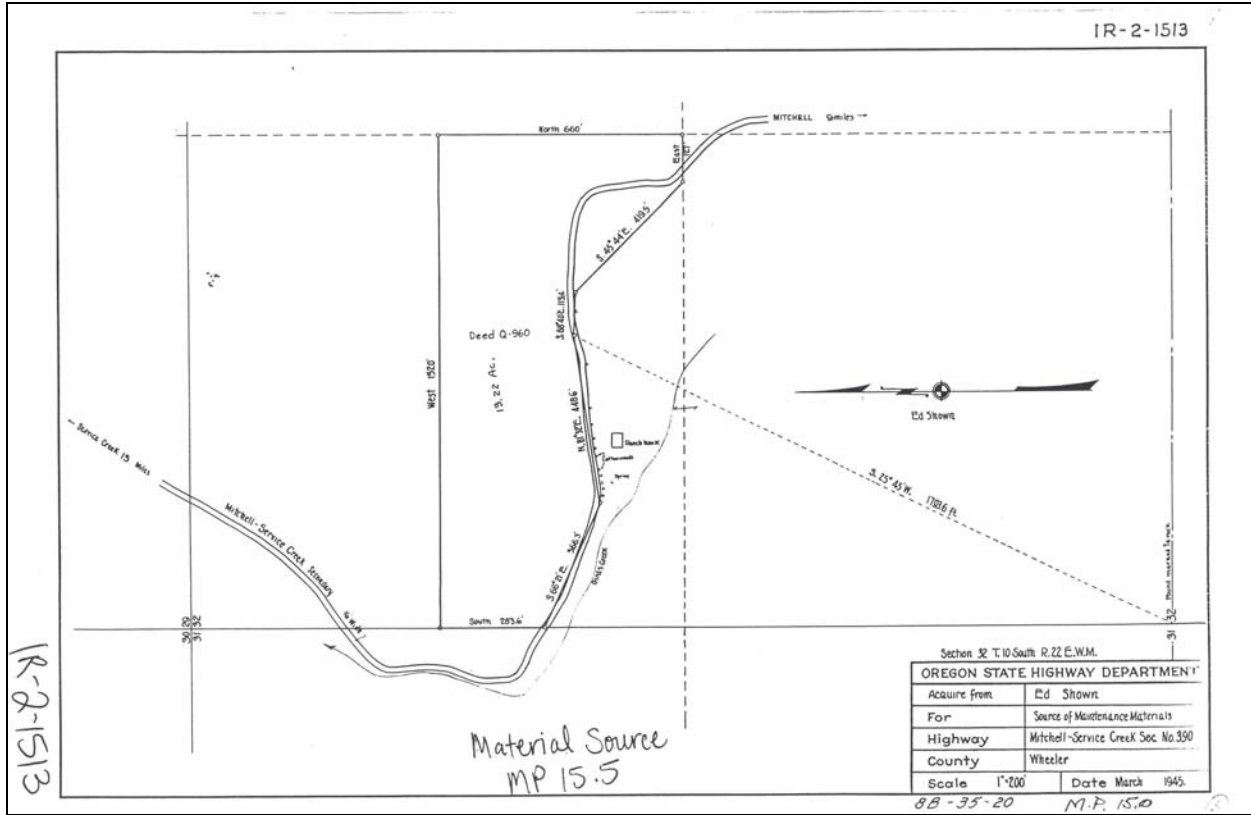
NW

NE



Looking to the north at the quarry site along Highway 207.

Close-up view of the platy (thin) fracture within the basalt at this location.



Aerial view of the quarry site in relation to the surrounding terrain.

County	Site Name			Dist	Hwy	Mile Pt	TWP	RGE	Sect
Wheeler				10	0390	0	11S	21.0E	23
File ID		Source #	Date Visited	Map #			Type of Site		
35556		35-031-4	06/07/2000	1R-3-1359			Quarry		
Latitude	Longitude	Elev. (m)	Acreage	Pit Size		DOGAMI Permit #			
44 36'16.75113"	120 10'02.36803"	922.882	24.13	<1					
Comments									
GPS acquired in the pit.									
Rock Type	Unit	Color		Weathering			Jointing		
Andesite	Ks	Light Olive Grey (5Y 5/2)		Fresh			Highly to Moderately Fractured		
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)			
Fair to Poor			R3+	160	60,000	129,600			
Potentially Significant Site	Why			Open/Closed	Direction				
No	NA			Closed	NA				
Adjacent Land Use									
Open space									
Remarks									
This site is located about 700 meters west of Highway 207. The rock is a fine-grain andesite with interbeds of mudstone. The rock is hard but can be brittle. Some of the rock is very platy. You can rip the material. There is good screening with room to work here. The terrain is gradual from 0 to 8 degrees. The mudstone would be considered overburden and could be in the way. There is some rip rap of good size and quality. The quarry site is just a little over 9 acres with the rest of the acreage tied up in the easement and stock pile site.									
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.	
2.49	2.57	13.7	1.2	1.0			10.4	1.0	
Material Use									
AC Base (1992)									

SE

SW



Looking to the south across the small pit at this site.

Close-up view of the fracture pattern in the andesite.

County	Site Name				Dist	Hwy	Mile Pt	TWP	RGE	Sect
Wheeler	Monroe Quarry				10	0390	18.65	11S	22.0E	08
File ID		Source #	Date Visited	Map #		Type of Site				
35555		35-040-4	06/07/2000	1R-5-1657		Borrow				
Latitude	Longitude	Elev. (m)	Acreage	Pit Size	DOGAMI Permit #					
44 37'25.42951"	120 07'20.26295"	992.233	5.4	<1						
Comments										
GPS acquired in the pit.										
Rock Type		Unit	Color	Weathering			Jointing			
Volcanic/Metamorphic Gravel		Qal	NA	NA			NA			
Quality			Hardness	lbs./cu ft.	Reserve (cy)	Reserve (Tons)				
Good			NA	120	70,000	113,400				
Potentially Significant Site	Why			Open/Closed	Direction					
No	NA			Closed	NA					
Adjacent Land Use										
Open space										
Remarks										
This site is located adjacent to and north of Highway 207. The material is composed of a heterogeneous mix of volcanic and metamorphic gravel ranging in size from pebble (75%), silt (20%), and organics (5%). This is a small colluvial fan at the base of a large canyon just to the north. There is no screening with plenty of room to work.										
202B	203B	211	206 Fine	206 Coarse	208 F	208 F Ht.	208 C	208 C Ht.		
	2.73	12.7			20.70	1.9				
Material Use										
Base Surfacing (1962)										

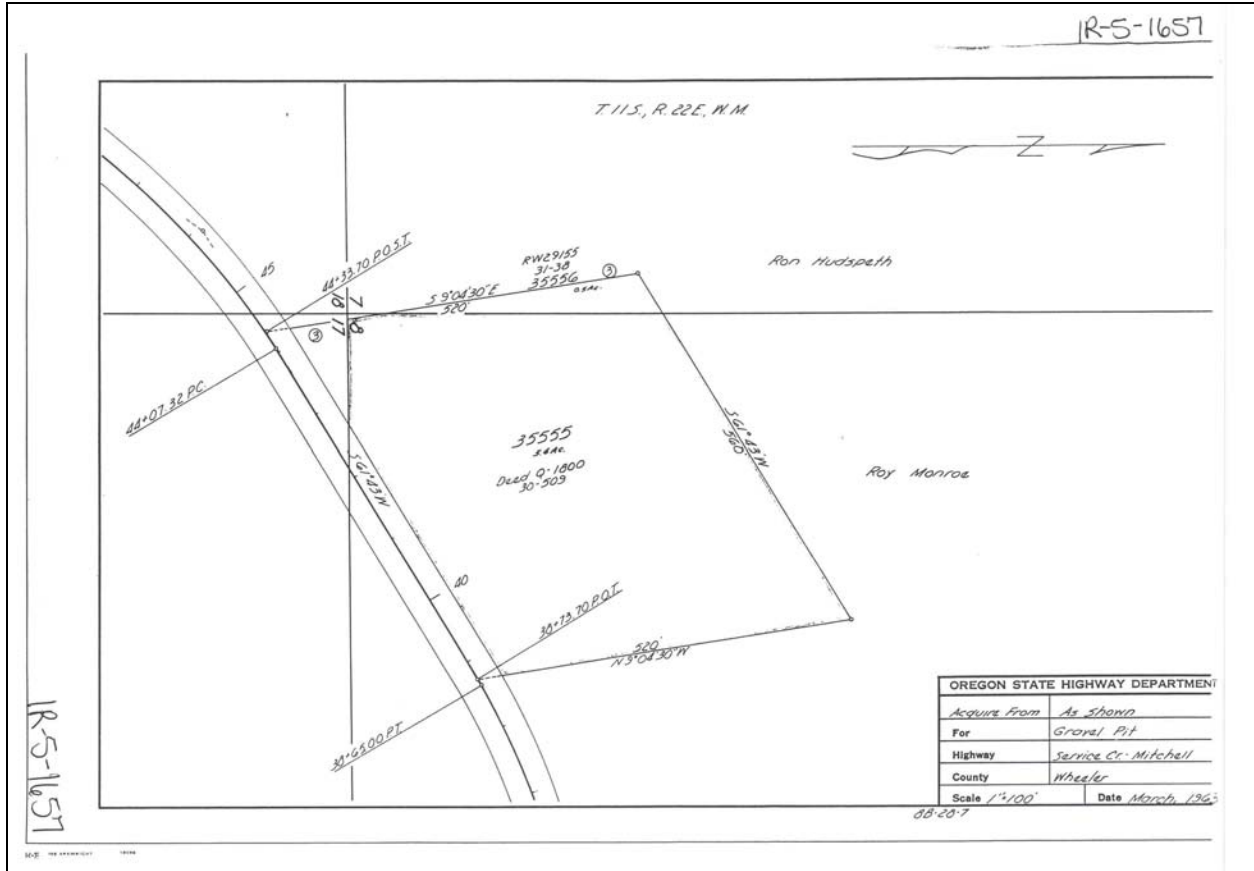
W

NE



Looking to the north at the borrow site along Highway 207.

Close-up view of the gravel at this location, note the bedding planes within this exposure.



Aerial view of the borrow site at the base of the canyon.