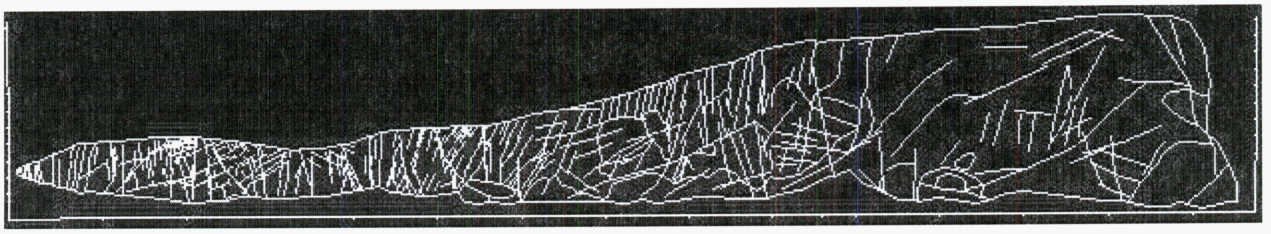
NOPAL 1 VERTICAL FRACTURES

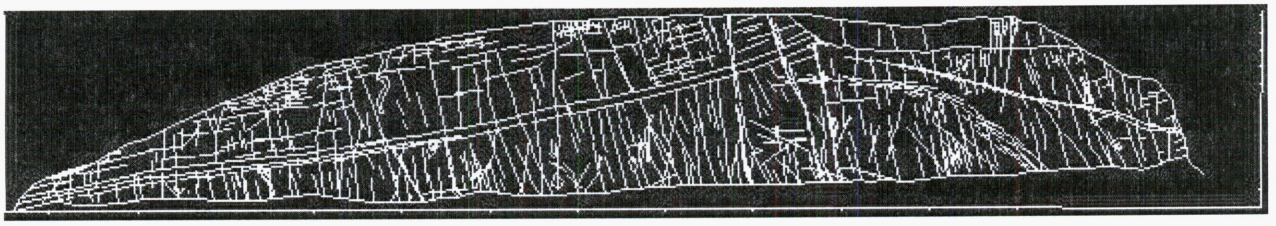
Nopal 1 Vertical Fractures

Level +00

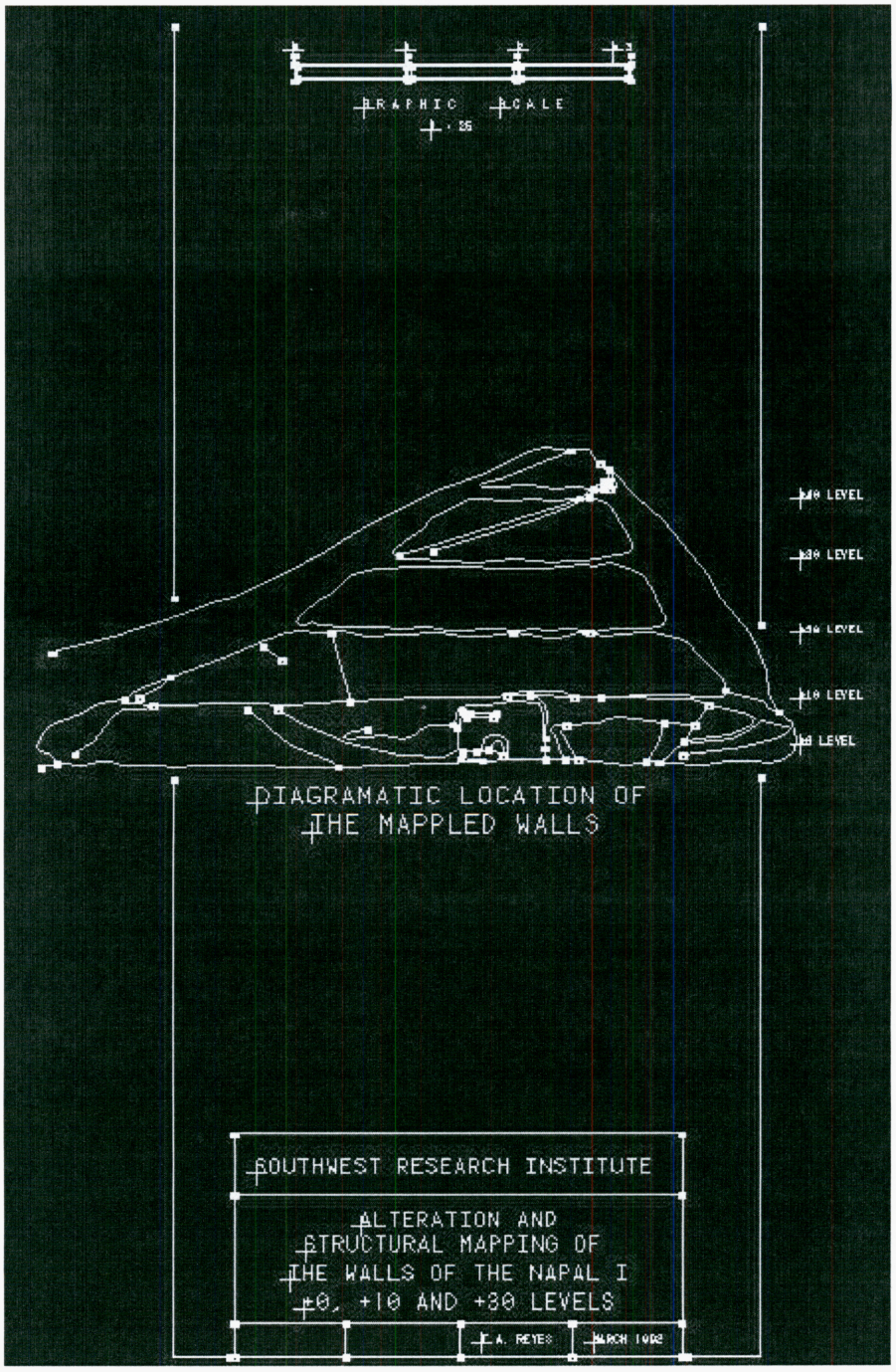


Level +10

Level +30

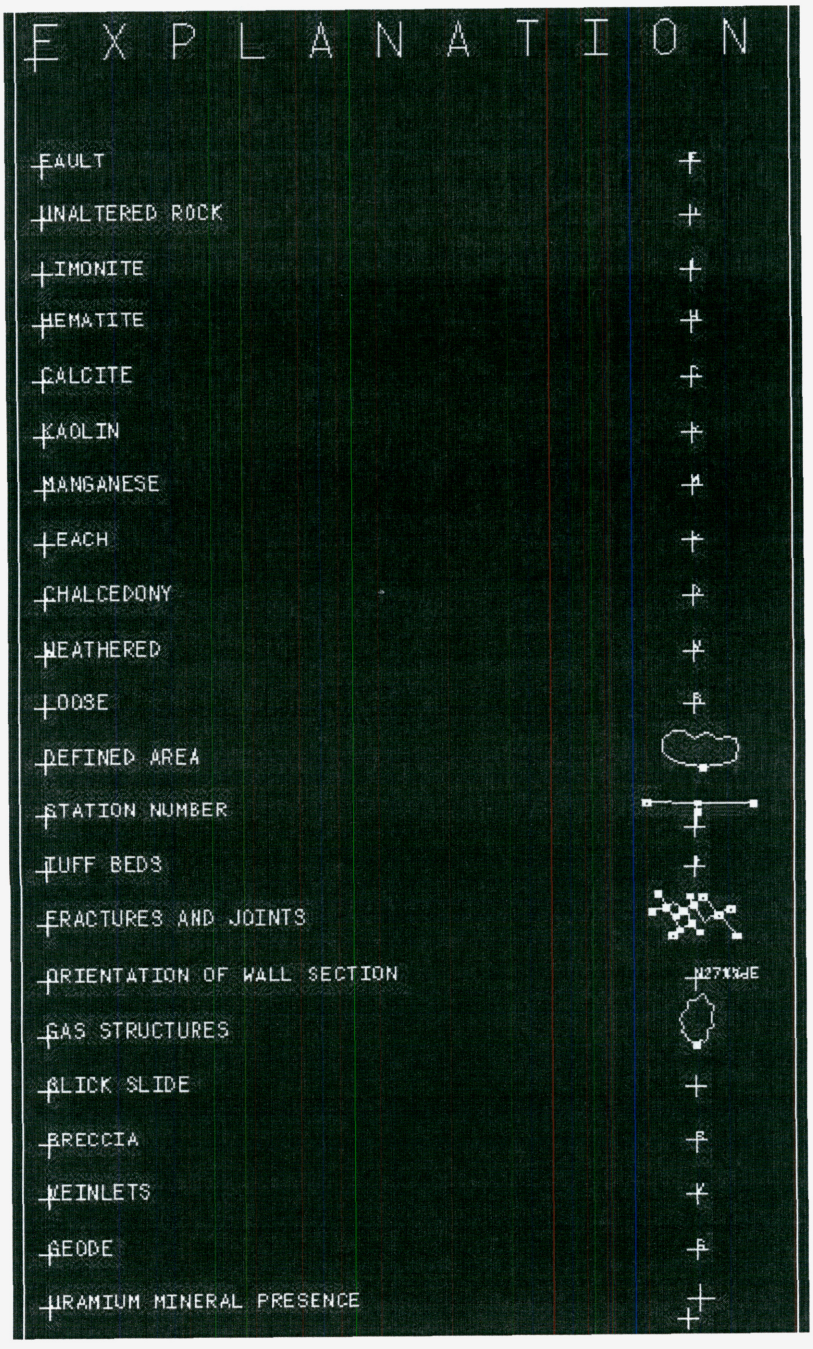


Digitized by Optronics Specialty Co.



Digitzied by Optronics Specialty Co.

Legend of Features for Levels of Nopal 1



HORIZONTAL FRACTURES

EW (m)	X_UTM (meters)	NS (m)	Y_UTM (meters)	vertical (m)	strike	dip	max aperture (mm)
-9.3	399330.7	4.0	3220734.0	10	N85W	82NE	0.2
-9.3	399330.7	-0.5	3220729.5	10	N12W	71NE	<0.8
-9.1	399330.9	-4.2	3220725.8	10	N62W	82NE	2.0
-9.0	399331.0	3.9	3220733.9	10	N42W	77NE	0.9
-8.9	399331.1	0.1	3220730.1	10	N58W	39NE	nm
-8.9	399331.1	-1.2	3220728.8	10	N3E	82SE	0.6
-8.9	399331.1	-1.8	3220728.2	10	N22E	85SE	0.5
-8.7	399331.3	1.7	3220731.7	10	N38W	13SW	nm
-8.1	399331.9	12.4	3220742.4	10	N26W	81NE	0.6
-7.8	399332.2	4.0	3220734.0	10	N5W	78NE	0.5
-7.8	399332.2	-4.5	3220725.5	10	N4W	87SW	nm
-7.5	399332.5	1.4	3220731.4	10	N61W	86NE	3.5
-7.5	399332.5	14.9	3220744.9	10	N58W	80NW	0.5
-7.4	399332.6	1.0	3220731.0	10	N37W	80NE	1.5
-7.3	399332.7	2.6	3220732.6	10	N54W	56NE	0.7
-7.1	399332.9	11.1	3220741.1	10	N23E	66NE	1.0
-6.8	399333.2	-4.6	3220725.4	10	N43W	22SW	nm
-6.6	399333.4	-1.7	3220728.3	10	N71W	61NE	1.0
-6.0	399334.0	-1.9	3220728.1	10	N53W	68NE	0.5
-5.7	399334.3	10.5	3220740.5	10	N31W	86NE	0.6
-5.3	399334.7	0.6	3220730.6	10	N12E	74SE	0.3
-4.1	399335.9	3.1	3220733.1	10	N33E	84SE	2.5
-3.2	399336.8	1.8	3220731.8	10	N21W	72NE	0.1
-3.0	399337.0	0.6	3220730.6	10	N33W	25SW	<0.1
-3.0	399337.0	0.6	3220730.6	10	N33W	25SW	<0.1
-3.0	399337.0	0.6	3220730.6	10	N33W	25SW	<0.1
-3.0	399337.0	0.6	3220730.6	10	N33W	25SW	<0.1
-2.8	399337.2	-1.3	3220728.7	10	N74W	86NE	<0.2
-2.5	399337.5	2.3	3220732.3	10	N80W	68NW	2.2
-2.5	399337.5	-1.3	3220728.7	10	N69W	85NE	1.0
-2.3	399337.7	-1.3	3220728.7	10	N89W	85NE	6.0
-2.0	399338.0	0.8	3220730.8	10	N55W	85NE	0.8
-2.0	399338.0	-1.1	3220728.9	10	N85W	75NE	5.0
-2.0	399338.0	-1.3	3220728.7	10	N84W	85NE	1.0
-1.9	399338.1	-1.3	3220728.7	10	N80W	85NE	2.0
-1.9	399338.1	13.9	3220743.9	10	N75W	63NE	5.0
-1.6	399338.4	1.0	3220731.0	10	N52E	90	1.5
-1.3	399338.7	-2.5	3220727.5	10	N40W	24SW	nm
-1.2	399338.8	1.8	3220731.8	10	N48W	75NE	2.1
0.4	399340.4	2.6	3220732.6	10	N51W	73NE	<0.1
0.4	399340.4	2.6	3220732.6	10	N51W	73NE	<0.1
0.4	399340.4	2.6	3220732.6	10	N51W	73NE	<0.1
0.4	399340.4	-3.7	3220726.3	10	N65W	72SW	0.8
1.0	399341.0	3.1	3220733.1	10	N72W	79NE	0.2
1.0	399341.0	-4.0	3220726.0	10	N70W	85SW	3.7
1.6	399341.6	17.6	3220747.6	10	N15W	87SW	3.5
1.6	399341.6	11.0	3220741.0	10	N36W	73NE	0.5

1.7	399341.7	21.2	3220751.2	10	N19W	89NE	55.0
1.8	399341.8	-3.7	3220726.3	10	N11W	41NE	2.0
2.1	399342.1	2.6	3220732.6	10	N72W	88NE	0.8
2.3	399342.3	17.5	3220747.5	10	N13W	12SW	<0.1
2.8	399342.8	3.1	3220733.1	10	N41W	73NE	1.2
3.4	399343.4	16.9	3220746.9	10	N28W	76NE	10.0
3.7	399343.7	17.6	3220747.6	10	N85W	83NE	1.5
4.2	399344.2	13.8	3220743.8	10	N87E	89NW	1.0
4.3	399344.3	17.4	3220747.4	10	N56W	77NW	1.7
4.4	399344.4	2.3	3220732.3	10	N50W	83NE	0.2
4.5	399344.5	-2.0	3220728.0	10	N90E	87NE	4.0
4.5	399344.5	13.8	3220743.8	10	N87E	89NW	0.5
4.7	399344.7	17.2	3220747.2	10	N82W	58NE	2.0
4.7	399344.7	-2.5	3220727.5	10	N3W	69NE	0.7
5.0	399345.0	36.7	3220766.7	10	N76W	15SW	0.2
5.0	399345.0	22.1	3220752.1	10	N50W	24SW	<1.0
5.0	399345.0	8.3	3220738.3	10	N81W	90	0.2
5.2	399345.2	19.0	3220749.0	10	N85W	67NE	<0.1
5.3	399345.3	24.0	3220754.0	10	N35E	90	0.1
5.5	399345.5	31.0	3220761.0	10	N12W	68NE	5.0
5.5	399345.5	31.3	3220761.3	10	N12W	68NE	8.0
5.5	399345.5	34.4	3220764.4	10	N12W	68NE	2.0
5.5	399345.5	31.5	3220761.5	10	N3E	29SW	<0.15
5.6	399345.6	24.9	3220754.9	10	N7E	64SE	1.0
6.1	399346.1	17.3	3220747.3	10	N8W	34SW	<0.1
6.1	399346.1	35.0	3220765.0	10	N27E	59SE	0.5
6.1	399346.1	-2.5	3220727.5	10	N84W	87NE	0.2
6.2	399346.2	27.6	3220757.6	10	N18W	54SW	<0.1
6.2	399346.2	-2.5	3220727.5	10	N84W	87NE	2.5
6.3	399346.3	8.2	3220738.2	10	N68W	68NE	0.3
6.9	399346.9	18.4	3220748.4	10	N25W	22SW	<0.1
7.2	399347.2	8.2	3220738.2	10	N88E	83NW	1.0
7.3	399347.3	27.0	3220757.0	10	N82W	73NE	<0.1
7.3	399347.3	31.7	3220761.7	10	N43E	76NW	<0.1
7.4	399347.4	19.1	3220749.1	10	N20W	37SW	<0.1
7.4	399347.4	-1.2	3220728.8	10	N76W	79NE	3.0
7.5	399347.5	31.7	3220761.7	10	N88W	90	<0.1
7.5	399347.5	16.2	3220746.2	10	N9W	84NE	<0.1
7.8	399347.8	18.2	3220748.2	10	N75W	37SW	<0.1
7.8	399347.8	18.1	3220748.1	10	N43W	70NE	<0.1
7.8	399347.8	6.8	3220736.8	10	N20W	23SW	<0.1
7.8	399347.8	6.8	3220736.8	10	N20W	23SW	<0.1
7.8	399347.8	6.8	3220736.8	10	N20W	23SW	<0.1
8.0	399348.0	22.4	3220752.4	10	N9W	70NE	<1.0
8.2	399348.2	33.7	3220763.7	10	N81E	35NW	2.0
8.2	399348.2	15.0	3220745.0	10	N5E	78SE	<0.1
8.3	399348.3	31.4	3220761.4	10	N78E	10NW	<0.1
8.3	399348.3	6.5	3220736.5	10	N67W	76NE	0.2
8.4	399348.4	28.4	3220758.4	10	N24W	17SW	<0.1
8.5	399348.5	16.0	3220746.0	10	N80E	63SE	<0.1

8.8	399348.8	5.0	3220735.0	10	N83W	82NE	2.0
8.9	399348.9	26.5	3220756.5	10	N68E	38NW	0.2
9.1	399349.1	37.4	3220767.4	10	N87W	64NE	0.8
9.1	399349.1	17.1	3220747.1	10	N27E	75SE	2.0
9.4	399349.4	27.5	3220757.5	10	N59W	25SW	<0.1
9.8	399349.8	38.8	3220768.8	10	N28W	90	0.7
9.8	399349.8	18.3	3220748.3	10	N18E	68SE	0.9
9.9	399349.9	18.1	3220748.1	10	N7W	20SW	<0.1
9.9	399349.9	-1.4	3220728.6	10	N45W	83NE	0.8
10.0	399350.0	27.5	3220757.5	10	N3W	63NE	0.8
10.0	399350.0	32.9	3220762.9	10	N85W	38NW	15.0
10.0	399350.0	-2.8	3220727.2	10	N71W	83NE	0.8
10.0	399350.0	13.5	3220743.5	10	N88W	88SE	1.0
10.2	399350.2	-2.8	3220727.2	10	N71W	83NE	0.3
10.3	399350.3	9.7	3220739.7	10	N16E	48NW	0.6
10.3	399350.3	-0.6	3220729.4	10	N80W	83NE	0.6
10.4	399350.4	38.8	3220768.8	10	N18W	90	0.2
10.4	399350.4	-2.2	3220727.8	10	N71W	86NE	0.4
10.6	399350.6	23.5	3220753.5	10	N78W	79SW	0.6
10.7	399350.7	35.8	3220765.8	10	N32W	87NE	<0.1
10.8	399350.8	27.5	3220757.5	10	N36W	66NE	1.5
10.8	399350.8	37.4	3220767.4	10	N67E	90	<0.1
11.0	399351.0	31.9	3220761.9	10	N85E	55NW	1.0
11.1	399351.1	7.7	3220737.7	10	N15W	21NE	<0.1
11.1	399351.1	1.5	3220731.5	10	N31E	80SE	1.3
11.2	399351.2	1.7	3220731.7	10	N55W	81NE	0.5
11.3	399351.3	40.1	3220770.1	10	N74E	78NW	<0.1
11.4	399351.4	39.6	3220769.6	10	N64E	65NW	0.6
11.5	399351.5	44.3	3220774.3	10	N65E	89SE	0.3
11.6	399351.6	41.6	3220771.6	10	N40W	90	<0.1
11.6	399351.6	20.4	3220750.4	10	N67W	58NE	1.0
11.6	399351.6	8.3	3220738.3	10	N58W	68NE	<0.1
11.6	399351.6	1.6	3220731.6	10	N7E	84SE	2.0
11.7	399351.7	15.5	3220745.5	10	N90E	48NW	<0.1
11.9	399351.9	32.5	3220762.5	10	N71E	53NW	0.6
11.9	399351.9	43.8	3220773.8	10	N56E	89SE	<0.1
12.2	399352.2	27.4	3220757.4	10	N56W	39NE	<0.1
12.2	399352.2	27.1	3220757.1	10	N47W	38SW	<0.1
12.5	399352.5	43.0	3220773.0	10	N66E	68NW	<0.1
12.6	399352.6	29.0	3220759.0	10	N32E	75NW	<0.1
12.6	399352.6	22.1	3220752.1	10	N35E	46SE	0.7
12.6	399352.6	22.1	3220752.1	10	N42E	69NW	0.4
12.7	399352.7	17.0	3220747.0	10	N52E	31NW	<0.1
12.7	399352.7	23.2	3220753.2	10	N75W	20NE	0.2
12.8	399352.8	33.4	3220763.4	10	N82W	40NE	<0.1
12.8	399352.8	8.7	3220738.7	10	N52E	37SE	<0.1
12.8	399352.8	8.6	3220738.6	10	N82W	77NE	1.5
12.8	399352.8	10.8	3220740.8	10	N36W	47NE	0.2
12.9	399352.9	8.4	3220738.4	10	N32W	47NE	<0.1
12.9	399352.9	6.3	3220736.3	10	N42W	54SW	<0.1

13.2	399353.2	29.9	3220759.9	10	N21W	52NE	2.0
13.3	399353.3	15.4	3220745.4	10	N3E	54SW	<0.1
13.4	399353.4	14.1	3220744.1	10	N18W	56NE	0.2
13.4	399353.4	14.1	3220744.1	10	N74W	57NW	1.0
13.5	399353.5	20.5	3220750.5	10	N38E	39NW	10.0
13.5	399353.5	20.5	3220750.5	10	N38E	39NW	10.0
13.6	399353.6	15.9	3220745.9	10	N7W	60SW	<0.1
13.7	399353.7	9.7	3220739.7	10	N33E	51SE	<0.1
13.8	399353.8	17.4	3220747.4	10	N40W	19SW	<0.1
13.8	399353.8	14.2	3220744.2	10	N12W	38NE	0.1
14.1	399354.1	31.2	3220761.2	10	N46W	57NE	0.7
14.3	399354.3	13.9	3220743.9	10	N9E	33SE	0.2
14.3	399354.3	14.1	3220744.1	10	N7E	35SE	0.4
14.3	399354.3	14.5	3220744.5	10	N14E	37SE	0.2
14.7	399354.7	36.0	3220766.0	10	N21E	80NW	3.2
14.9	399354.9	23.3	3220753.3	10	N86E	33NW	0.3
15.0	399355.0	40.3	3220770.3	10	N87W	89NE	0.3
15.3	399355.3	41.4	3220771.4	10	N86W	43SE	<0.1
15.6	399355.6	27.9	3220757.9	10	N10W	43SW	0.2
15.6	399355.6	21.6	3220751.6	10	N20E	31NE	0.3
15.8	399355.8	37.2	3220767.2	10	N60E	64NW	2.0
15.9	399355.9	32.2	3220762.2	10	N34E	81SE	<0.1
16.3	399356.3	15.9	3220745.9	10	N17W	84NE	0.2
16.3	399356.3	24.5	3220754.5	10	N5W	50SW	<1.0
16.6	399356.6	35.0	3220765.0	10	N57E	89NW	<0.1
16.6	399356.6	5.9	3220735.9	10	N34E	44SE	1.0
16.8	399356.8	35.0	3220765.0	10	N28E	88SE	0.4
16.8	399356.8	8.3	3220738.3	10	N77E	42NW	<0.1
16.8	399356.8	8.4	3220738.4	10	N30W	57NE	<0.1
17.0	399357.0	25.4	3220755.4	10	N7E	57SE	<0.1
17.3	399357.3	41.2	3220771.2	10	N77E	48SE	3.5
17.4	399357.4	33.9	3220763.9	10	N14E	81NW	0.6
17.4	399357.4	22.6	3220752.6	10	N61W	28SW	1.0
17.5	399357.5	16.0	3220746.0	10	N28W	42SW	0.1
17.7	399357.7	36.0	3220766.0	10	N56E	63NW	<0.1
17.7	399357.7	39.0	3220769.0	10	N44W	80NE	2.5
17.8	399357.8	6.1	3220736.1	10	N20W	65NE	0.5
11.0	399351.0	0.6	3220730.6	10	N10E	88SE	1.5
18.1	399358.1	26.7	3220756.7	10	N30E	72SE	1.0
18.1	399358.1	22.5	3220752.5	10	N10W	31SW	0.6
18.1	399358.1	22.5	3220752.5	10	N2W	77NE	1.0
18.1	399358.1	22.5	3220752.5	10	N82W	62NW	2.0
18.2	399358.2	34.2	3220764.2	10	N53E	26SE	<0.1
18.4	399358.4	34.7	3220764.7	10	N81E	89NW	<0.1
18.6	399358.6	17.4	3220747.4	10	N18W	67NE	0.2
18.8	399358.8	11.9	3220741.9	10	N6W	35NE	1.0
19.0	399359.0	12.0	3220742.0	10	N10W	41NE	<0.1
19.2	399359.2	15.0	3220745.0	10	N3W	42NE	<0.1
20.4	399360.4	20.8	3220750.8	10	N78W	44NE	15.0
20.5	399360.5	40.9	3220770.9	10	N89E	25NW	<0.1

20.5	399360.5	41.3	3220771.3	10	N87E	56NW	<0.1
20.8	399360.8	18.5	3220748.5	10	N75W	57NE	3.0
21.0	399361.0	9.1	3220739.1	10	N55W	90	0.2
21.2	399361.2	30.7	3220760.7	10	N41E	75SE	<0.1
21.2	399361.2	31.1	3220761.1	10	N69W	51NE	<0.1
21.2	399361.2	35.9	3220765.9	10	N35E	47NE	<0.1
21.4	399361.4	32.7	3220762.7	10	N73E	46NW	0.7
21.4	399361.4	35.4	3220765.4	10	N88E	39NW	0.5
21.8	399361.8	42.2	3220772.2	10	N82E	52NW	2.5
21.8	399361.8	27.0	3220757.0	10	N57E	52NW	<0.1
22.1	399362.1	17.0	3220747.0	10	N20W	56NE	0.3
22.3	399362.3	18.3	3220748.3	10	N76W	90	<0.1
22.4	399362.4	21.1	3220751.1	10	N85E	57NW	2.0
22.7	399362.7	37.7	3220767.7	10	N79E	34NW	<0.1
22.7	399362.7	17.0	3220747.0	10	N17W	42SW	<0.1
22.8	399362.8	27.8	3220757.8	10	N40E	40NW	<0.1
23.3	399363.3	35.0	3220765.0	10	N56E	14NW	<0.1
23.5	399363.5	37.6	3220767.6	10	N77E	65NW	3.5
23.7	399363.7	31.9	3220761.9	10	N81W	57NW	0.4
24.5	399364.5	11.8	3220741.8	10	N60W	34NE	0.6
24.5	399364.5	10.5	3220740.5	10	N14W	72SW	0.5
27.1	399367.1	17.5	3220747.5	10	N85W	62NE	4.0

filling	roughness coeficient
FeOx=1,MnOx=2,Kao=3,Cal=4	
2	
nm	
1	
1+3	
1	
1	
1	
1	
1+3	
2+4	
1+3	
2	
1+2	
1	
2	
1+2+3	
1+2+3	
1+2	
1+2	
2+3	
2+3	
1	
1	
3	
3	
3	
3	
1+2+3	
2	
1+2	
1+2+3	
2	
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