GIS Based Assessment and Evaluation of the Environmental Impacts of Opencast Coal Mining in Raniganj Coalfield, West Bengal, India

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Abstract: The Raniganj coalfieldoverlies the granite plateau ring of Choto Nagpur in the Damodar valley region surrounded by the Durgapur-Asansol industrial belt with a general elevation of about 100 meters. Origin of coal was of Permian age, estimated to be 205 to 108 million years old in Ranigani and Barakar stages of Gondwana age. The study area Khottadih and Sonepur Bazari are one of the biggest OC Projects in Ranigani coalfield commenced on 1982 and 1990 respectively. In due course of time these OCPshave been producing enormous coal with very quickness. But it degrades the environment vastly. In order to find out the environmental degradation in this area, spatial and temporal variations of suspended particulate matter (SPM) and daily noise of air have measured on a regular basis. Volumetric filtration and gravimetric weighing methods have been used to explore the SPM. Alongside the daily noise have been measured by using pulsar digital sound level meter. To show the local morphological changes, land degradation have been measured by calculating the reduced level (RL) using total station. It was found that SPM is 124.9 μgm^3 higher than the normal. Simultaneously the manmade difference in elevation is maximum 154.6 m. It clearly denotes that the environment around the mines have altered through the time due to mining activities, since the inception. This huge amount of environmental loss which associated with opencast mining are generally excluded from financial appreciation of opencast project. The mining authority is not animate about the degradation, they are busy for production. By using hedonic pricing method the researcher tries to explore the amount of environmental degradation due to opencast coal mining and provide cost upon them. In the past35 yearsRs 295.49 Crore rupees is the cost of environmental degradation. The mining authority should include this environmental cost in the financial appreciation. Because this monetary environmental costs of these projects could be sufficient to reduce sustainability and its economic viability. In Arc GIS several mathematical algorithms like Inverse Distance Weighted (IDW), Thiessen Polygon and Kriging have been used to show the environmental cost. The main objective of this study is to estimate the costs of these environmental impacts and compare them to the benefits of coal extraction.

Keywords: environmental cost, hedonic pricing method, hidden prices, spatial and temporal variation in air quality, local morphology, mathematical algorithms, regression model, willingness to pay

I. Introduction

If we consider environment as a goods, then it belongs to everybody but belongs to no body. Therefore protection of environment is one of the principal concerns in the 21St century and is likely to dominate political interest in the coming years. Open cast mining is a surface mining technique of extracting rock or minerals from the earth by their removal from an open pit. Opencast mines are performed when deposits of commercially useful minerals or rock are found near the surface; that is where the overburden (surface materials covering the mineral) is relatively thin or the tunneling is not possible. Opencast mining is more effective than almost all types of mining because of more ore can be extracted with very quickness. The working conditions are safer for the miners because there is no risk of cave in or toxic gas, low production cost and increasing labor efficiency. Therefore opencast mining is gaining popularity decade by decade. But it generates noise, dust, adverse visual impact, degraded land and not least the long-term environmental damage which can be caused to rural areas even after restoration. Thereafter, the tension between the environmental loss and the profitability of opencast coal mining is debatable. Raniganj Coalfield, which falls under E.C.L is the birth place of coal mining in the Country. In 1975 Eastern Coalfields Limited, a Subsidiary of Coal India Limited (C.I.L) was formed and inherited all the private sector coal mines of Raniganj Coalfields. Khottadih and Sonepur Bazari are departmental mines of Eastern Coalfields Limited.Khottadih and Sonepur Bazari OC projects are one of the biggest in Raniganj coalfield. These two regions were situated in a green belt area, where land was used almost entirely for agricultural purposes. Thereafter the abandonment of these two projects would generate adverse environmental impacts. The key question is whether the benefits outweigh the costs, which the researcher attempts to answer via hedonic pricing method. The researcher seeks to identify such a comparison for Khottadih and Sonepur Bazari OC projects, which produced 76.78 million tons coal and 262.43 million tons over burden during past 19 years.

Location

The study area is bounded by latitudes 23°39'40.11''N to 23° 44' 21.82''N and longitudes 87° 11' 19.93''E to 87° 16' 54.05''E at an elevation of 98.45m.Total area is 87.15 sq km. The area presents a nearly flat topography with broad undulation. The area is sloping gently. Mean elevation is 98.45m.

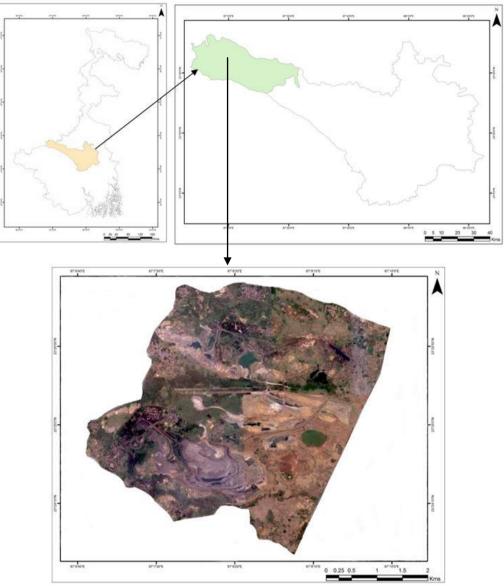


Figure1: Location Map of the Study Area

II. Methods

The researcher introduces several techniques to investigate the problems associated with the estimation of hidden prices for opencast mines.

4.1 Wage studies / Value ofhealth risks: Use information on risk premium to value people willingness to pay to avoid hazards.

P = f (s1. s2. s3... si; n1, n2. n3... nj; e1, e2, e3 ... ej)

Where

s1. s2. s3... si are the structural variables

n1, n2. n3... nj are the neighborhood variables

e1, e2, e3 ... ejare environmental variables

The hedonic price method of environmental valuation uses surrogate markets for placing a value on environmental quality. The technique uses the effects of the project as a proxy for its environmental costs. The Hedonic Price Method is a revealed preference method of valuation. This method interprets market goods as a bundle of characteristics. The structural features like type of house, age of house, and house with concrete roof

or not. The neighborhood characteristics includes existence of amenities, local transportation and distance from OCP, the accessibility of the location. Environmental characteristics are health of air, availability of vegetation and status of landuse usually delineated by location

4.2 Air pollution: Air pollution and noise have a direct impact on property value. The method employed for collection of suspended particulate matter is by volumetric filtration and gravimetric weighing, where sampling of air through a filter medium at a known flow rate for a specified time is performed. The sampler whose height is around 1.3m is kept at the ground level so as to mimic the average height of the human respiratory organ i.e. the nose. A conditioned and pre weighed glass fibre filter and a cyclone cup are placed in their appropriate mounting in the air sampler. The sampler timer is set for eight hours. The monometer is also adjusted for the right flow rate (i.e. 1Lmin⁻¹) and the initial flow rate is noted down after five minutes of starting. The suspended particles enter the cyclone where coarse non-respirable (NRSPM) is separated from the air steam by centrifugal force. It falls through the cyclone's conical hopper and gets collected in the pre weighed whatman glass microfiber filter paper (GF/A 20.3*25.4 cm). At the end of the sampling process the final flow rate is estimated down and the RSPM collected the GF filter paper and the NRSPM collected in the cyclonic cup are weighed using an electronic top loading weighing balance. The concentration of particulate matter is estimated on the net mass collected divided by the volume of air sampled. The amount of non-respirable suspended particulate matter (NRSPM) is added to the amount of respirable suspended particulate matter (RSPM) for calculation of suspended particulate matter (SPM). (Pand A et al., 2012)

On the contrary daily noise was measured by using Digital Sound Level Meter.

4.3 Land Degradation:To detect the overall changes in elevation and to find out the degradation of land, total station have been used. During the total station survey several things were measured. These are horizontal angle, vertical angle, slope, horizontal difference, difference, easting, northing and height.

4.4 Algorithms in Arc GIS: In Arc GIS software, two mathematical algorithms have been used for interpolation purposes. Inverse Distance Weighted (IDW) a method for multivariate interpolation, a process of assigning values to unknown points by using values from usually scattered set of known points.

Thissen Polygon tool converts input points to an output feature class of thissen proximal polygons. It has the unique property that each polygon contains only one input point, and any location within a polygon is closer to its associated point than to the point of any other polygon.

4.5 Google Earth:Satellite image of the study area was taken from google earth. It is a quick bird image and spatialresolution is m. Date of acquired on 14th April, 2016, 08:12 am IST.

III. About the Mine

Two OC mines have been selected for analysis namely Khottadih and Sonepur Bazari. These two mines belong to Raniganj coalfield and are the departmental mine of Eastern Coalfields Limited. Here mining is done by shovel dumper combination. The salient features of these projects are as under.

5.1 Khottadih OC Project: Khottadih OC project is part of Pandaveswar area, located within latitude 23° 23' 59."N to 23° 29' 30"N and longitude longitudes 87° 04' 10"E to 87° 12' 25"EIt was commenced in 1982. This ocp issituated at the downfield area of Raniganj coalfield. Coal is being extracted from Rv and Rvi seams at the depth of 50m. Total leased area of this project is 334.5 hectare (including UG project). Where total opencast project area is 6.4 hectare. Backfilling process has been completed at the southern part of this OCP. Stripping ratio is 1:4.33. This project will run further 5 years (estimate) from 2016. In 2014 and 2015 25000 plants have been planted. Laterite soil is enormously found at the surface of this mine. 34 dumpers, 7 dozers and 8 shovels are continuously worked in this OCP.

5.2 Sonepur Baari OC Project: Sonepur Bazari OC project is part of Sonepur Bazari area, located within latitude 23° 39' 40.''N to 23° 42' 10''N and longitude longitudes 87° 11' 0''E to 87° 16' 16''E. It is the biggest OCP of Raniganj coalfield commenced in 1990. Total working area of the project is 1575.40 hectare. Coal is being extracted from Rii to Rviii seams at the depth of 150m. The quality of coal is G4. Stripping ratio of this OCP is 1:4.72. According to 2014 estimate the mine has a total reserve of 172.86 million tons, a life of 58 years. Diversion of river is seen in this OCP. Since the birth, 225500 plants are planted and total planted area is 92.5 hectare. 63 dumpers, 17 dozers and 13 shovels and 1 dragline are continuously worked in this OCP.

6. Valuation of Environmental Impacts and Costs

There is no precise method by which environment can be measured directly in term of financial cost. Hence, the researcher explores quality of air and decay of land to facilitate the comparison of land price as a proxy of environmental degradation. **6.1 Air Quality Management**: A study for assessment and management of suspended particulate matter of air was carried out on a regular basis by drawing samples from 15th September to 05th October 2016 from Pandaveswar, Khottadih and Sonepur Bazari areas by using the above mentioned method.

Daily noise is also measured from seven different stations of the study area on an irregular basis in 23rd August 2015, 10th November 2015 and 15th March 2015. The test results are compared with the standards prescribed by the MOEF.

6.2 Land Degradation: To detect the overall land degradation of the study area caused by mining activities, the author calculates the Reduced Level value of Sonepur Bazari OCP. With the help of total Station, RL is measured at different points of these two mines to enhance the height. In Sonepur Bazari mine, 445 points are collected as sample. After these, interpolation algorithms is performed to present the continuous surface elevation of the area. This continuous surface of the mines will give us a transparent concept about the degradation.

IV. Result and Discussion

To assess the environmental costs of Khottadih and Sonepur Bazari mines for the production of opencast coal, the researcher examined the temporal variation of Suspended Particulate Matter. Figure 2shows the comparison of SPM concentrationamong Pandaveswar, Khottadih and Sonepur Bazari area. During this survey, SPM was recorded highest in Sonepur Bazari and Khottadih area. Because these two region are opencast mining area. Highest SPM found at Sonepur area is 274.9 μ gm3, at Khottadih it is 267.4 μ gm3. Lowest SPM was recorded in Pandaveswar area, because it is a residential area. Average SPM is 123.85 μ gm3 at Pandaveswar. On 23rd August, 2015 noise was recorded highest in Training Centre that is 54.2 decibels and lowest is 41.8 at Dahuka. On the contrary on 10th November, 2015 highest noise was 54.2 and lowest 42.8 at Kenda. According to National Ambient Air Quality Standards, UK, annual desirable SPM in industrial area is 150 μ gm3, in residential and rural areas it is 100 μ gm3 and sensitive area it is 60 μ gm3. Thereafter the results sharply indicate that the health of air is not good enough in those areas except Pandaveswar. Because enormous suspended particles are there in the air due to excavation, digging, and transportation of mining vehicles and lack of air pollution prevention measures.

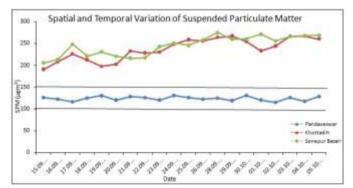
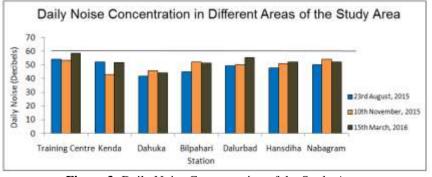


Figure 2: Spatial and Temporal Variations of Suspended Particulate Matter in three Stations

Figure 3 shows the spatial and temporal variations of daily noise in seven different areas in three different periods. The result shows that, noise is under desirable rate. But the crucial thing is that throughout the day the dwellers suffer from above mentioned noise generated from mining activities.



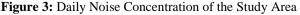


Figure 4 shows the suspended particulate matter Concentration map. It is a theissan polygon map. Where the three regions denotes different pollution level. It clearly indicates that, dark coloured area is highly polluted in terms of SPM concentration of air that is 244.5 μ gm³in and adjoining area of Sonepur Bazari OC project. It is Khottadih OC project and its adjoining area, which is moderately polluted and average SPM concentration is 237.45 μ gm³. These two areas are sharply polluted due to opencast mining activities. In Pandaveswar area the SPM concentration of air is optimum that is 123.85 μ gm³, because it is a residential area. The observed value has successfully validated. Total shape area of highly polluted, moderately polluted and less polluted area is 0.000315, 0.000679 and 0.000625 respectively.

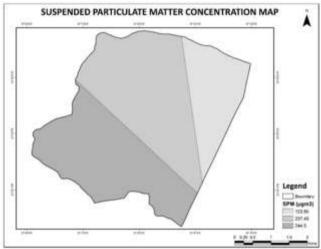


Figure 4: Suspended Particulate Matter Concentration Map

It is found that during 1998 to 2016 Khottadih mine produces 16.12 million tons coal, 40.38 million tons over burden. During this time total expenditure of this mine was 297.93 crore rupees. The coal was sold in Rs 3085.61 crore rupees. Therefore in this period the mine profits Rs 2787.65 crore rupees. During 1998 to 2016 Sonepur Bazari mine produces 60.66 million tonnes coal, 222.05 million tonnes over burden. During this time total expenditure of this mine was 399.43 crore rupees. Extracted coal was sold in Rs 11611.25 crore rupees. Therefore, in this period the mine profits Rs 11211.82 crore rupees. Figure 5 represents the elevation map of Sonepur Bazari mine. By using IDW algorithm in Arc GIS, this continues surface elevation map is prepared. In the map, the lighter colour indicates lowest elevation that is about -42.55 m, on the contrary dark colour indicates highest elevation that the researcher has identified through the surface elevation mapping. Huge amount of land degradation is continuously occurred here due to rapid excavation and overburden dumping. Coal is being extracted here from 150 m depth.

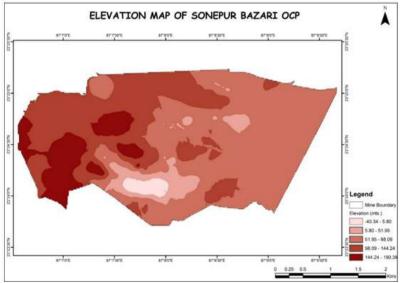


Figure 5: Elavation Map of Sonepur Bazari OC Project

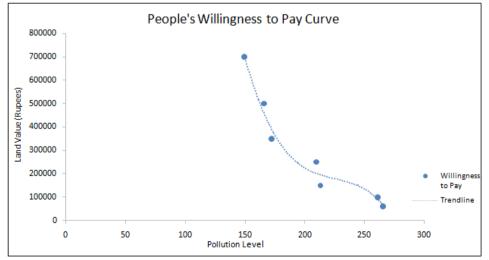
V. Findings

The goal of this study is to find out the environmental cost due to opencast mining. The method employed for measure the environmental cost is hedonic pricing method, where land value is used as a proxy of environmental degradation. For this purposes air pollution and land degradation taken into account. Because these two pollution have a direct impact on the land value. The researcher concentrates on the possible impact on land quality in the surrounding villages of the mine. An estimate of the possible impacts was made via a survey during June 2016 and August 2016. Specific questionwas asked during the interviews to consider four types of property, valued at Rs 20000, Rs 60000, Rs 100000 and Rs 200000. For each category question was asked, 'by how do you think the value of such a property has been changedfrom 1980 to 2016?'Some land belongs to Eastern Coalfields Limited, thereafter, the researcher got enough data from ECL too. All interviews considered that opencast mining in Khottadih and Sonepur Bazari areas have been a miscellaneous effect on house and land pricesduring last 36 years. It is argued that the health of environment is getting poor in the area due to opencast mining. But in some areas like Pandaveswar it is found that land prices increase due to development purposes associated with mining. It should be kept in mind that the Khottadih and Sonepur Bazari areas are very inaccessiblearea from the dawn. Therefore the rate of average fall in land prices due to air pollution is low compare to other developed countries. The average falls in house prices for each of these areas are reported in table 1. Overall land prices have been fall by between 15to 40 percent. In Sonepur area land of worth Rs 120000 is adversely affected, fall is 33.33%. In pandaveswar area land value increases; vastly increased land is worth Rs 300000 that is 66.67%. Khottadih is the most severely affected area. Highest decreased land is worth Rs 100000 that is 40%.

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Property Value	Sonepur Ba	zari	Pandavesv	war		Khottadih			
(Rupees)	1980	2016	%	1980	2016	%	1980	2016	%
20000	20000	17000	15	15000	20000	25	20000	15000	25
60000	40000	50000	25	50000	80000	37.5	50000	50000	25
100000	120000	80000	33.33	80000	150000	46.67	100000	60000	40
200000	200000	150000	25	300000	500000	66.67	150000	100000	33.33

Table 1: Average rise and fall ofLand Prices

To identify people's marginal willingness to pay for healthy environment the researcher used pollution level and price of land to get the trend of willingness. First of all the researcher sorts Suspended Particulate Matters (SPM), daily noise and land degradation into higher to lower value. Then add them together to get one value. It is independent variable denotes level of pollution and placed at x axis. Price of land is sorted from greater to smaller value. It is dependent variable and placed at y axis. Then questions were asked to people that, 'how much would you like to pay to avoid pollution and to get healthy environment?' Seven different stations were selected for this survey. Pollution level 0 indicates no air pollution and 300 denotes maximum pollution. The researcher formed a trend line by using polynomial order 3 on the basis of two variables. The trend line sharply indicates that peoples are willing to pay higher price for pollution free land and not so much interested to pay for polluted environment. Properties across a range of values are confirmed by the strong negative correlation between the pollution level and property values. This result is also consistent with the expectation that money valuations of environmental impacts should be an increasing function of individual income.





The researcher identified affected areas due to mining activities on map shown in figure 7. This map is prepared by using the data of table 1 and hedonic pricing method in Arc GIS. Test results indicate that villagers of Sonepur Bazari and Khottadih areas have been most severely affected because of their close proximity to the mine site shown on the map with saddle browncolour. Bengal Para village in Sonepur Bazari and Sukhbazar village in Khottadih are the most severely affected villages. Here the land value is from Rs 60000 to Rs 100000 per cotta. Moderately affected areas are Kenda, Dalurbad, Nabagram, Dahuka etc shown on map with dark goldenrodand pale goldenrod colour. Here the value of land is from Rs 100000 to Rs 200000 per cotta. The value of land in Pandaveswar and its adjoining area is higher due to the existence of railway station, large market and other facilities provided by ECL shown on map with steel blue colour. Price of land in this area is above Rs 400000 per cotta. Apart from these Bilpahari, Hansdiha, Kumarkhala etc are the low or moderately price valued land due to unhealthy environment. Here the price of land for cotta is from Rs 60000 to Rs 300000.

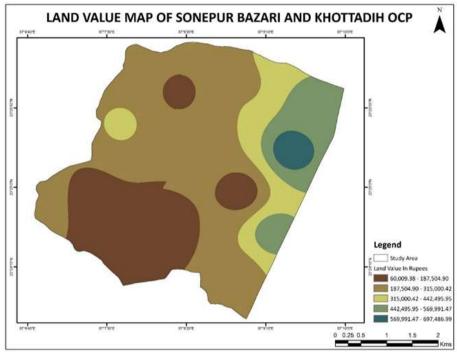


Figure 7: Land Value Map of Sonepur Bazari and Khottadih OCP

In order to aggregate the overall profit and effect of this project, it is needed to calculate the investment of OCPs and environmental cost caused by mining. It is very easy to get the investment and benefit of the projects. But the environmental cost is very difficult to get. Because the researcher don't has any precise procedure by which environmental cost can be measured. Therefore the researcher used price of land as a proxy for environmental degradation. It is very helpful to get the price of environment degradation by going to hedonic pricing method. The environmental costis calculated by summing all prices of land shown in table 1 and considering the hedonic method, which have been decreasing since the commencement of the project due to pollution. By multiplying the decreased price of land during 26 years with area the researcher gets the hidden or environmental cost. Table 2 shows a comparison of these costs with the benefits from coal production. The first balance sheet compares the profits of Khottadih and Sonepur Bazari sites with costs. Here total costs during this abovementioned period are Rs 711.37 crore and profitsare Rs 14696.86 crore. Thereafter the net benefit from these opencast sites are Rs 13999.5 crore.Net economic benefits have been gained from these sites, which excludes the environmental costs.

On the contrary, the second balance sheet compares the environmental costs with the benefits provided by the opencast sites. Here total cost is increased into Rs 1092.848 crore due to the addition of environmental or hidden cost. Total calculated environmental costs are Rs 395.488 crore. The net benefits are Rs 13604.012 crore. This means that, once the environmental costs of opencast mining are taken into account, therefore the net benefits of the project are decreased. This decreased amount is the cost of environment. Indeed the researcher postulated thatin Khottadih and Sonepur Bazari OC Projects, the production of coal by using opencast technique is environmentally costly.

Balance Sheet 1 (Rs Crore)		Balance Sheet 2 (Rs Crore)				
Profits	14696.86	Profits	14696.86			
Costs	697.36	Costs	1092.848			
Net Benefits	13999.5	Net Benefits	13604.012			

Table 2: Comparisons of Costs and Benefits

VI. Conclusion

In the Indian coal industry the dependence on opencast mining has been increased rapidly during the last two decades due to mechanization and modernization of mining operation. The large opencast mines have advantage of low gestation period and higher recovery of coal and are more amenable to heavy mechanization and modern technologies than underground mines, thus ensuring speed and economy in implementation. But after intensive studies the researcher has found that the environmental costs, valued in terms of the effect on land prices, as high as Rs 395.488 Crore. This reduces a significant proportion of profit, which ECL can make from these two sites. Environmental costs provide a lower estimate because landprices only shadow part of the fall in amenity value from the site and the researcher has not assembled the full menu of environmental degradation. The environmental costs indicate that opencast mining is not perfectly desirable in Khottadih and Sonpur Bazari areas because the environmental costs are huge enough and it reduces sufficient amount of benefits.Opencast coal from these areas most probably costly to produce than UG-mined coal. Although the researcher did not explore the UG mining. The researcher only excludes the air pollution from the cost, thereafter it can be argued that UG mining could be better option than opencast technique in order to prevent the pollution along with sustainable site development.

However, if UG mining cannot be possible due to unfavourable geological condition and the authority will have to go for opencast mining, then several techniques should be employed to arrest the air pollution and land degradation like developed countries. These are—air borne dust should be suppressed by sprinkling water on the main haul roads and other roads of the mine where vehicles play, wet drilling and provision of dust collector in drilling machine, water sprinkling at the various points of the CHP where coal is handled, sufficient numbers of dust extractors have been provided in CHP. In opencast technique literally it is impossible to check the land degradation. But we can reduce it to some extent by using proper backfilling techniques and plantation of herbs and trees.It can be said that People of Khottadih area have adjusted with the polluted environment. They often argued that colliery is the source of life here. They are entirely depended on mining. Pollution does not play any role in their life. Because ECL provides enormous facilities to them.If this researchwouldhave

been done in a developed country, to my opinion the environmental cost will be increased.Indeed the disturbance caused by the opencast mine lasted for few years after closing of the project. Land prices could start to return back to their original levels towards the end of a site's life cycle.

References

- [1]. Annual Report and Accounts 2014 2015, Eastern Coalfields Limited, Sanctoria, P.O. Dishergarh, Dist. Burdwan.
- [2]. Bandopadhyay Subhajit 'Crucial Factors Influencing Environmental Degradation: A Case Study on Raniganj Coal Mine Belt, West-Bengal India.' Indian Institute of Technology Bombay, Mumbai, India.
- [3]. Baumol J W and Oates E W 'The Theory of Environmental Policy, Cambridge.' Cambridge University, 2001.
- [4]. ChaddertonChloeElliott Eva and Williams Gareth, 'A guide to assessing the health and wellbeing impacts of opencast mining.' March 2011.
- [5]. Department of the Environment, 'Michael Howard Announces Planning Guidelines for opencast Coal', Environment New Release, No 212, March 1993.
- [6]. Freeman A M 'The Benefits of Environmental Improvement: Theory and Practice, Baltimore.' John Hopkins University.
- [7]. KatoriaDhruv, Sehgal Dhruv and Kumar Sameer 'Environment Impact Assessment of Coal Mining.' International Journal of Environmental Engineering and Management Volume 4, Number 3 (2013), pp. 245-250.
- [8]. Khorshiddoust A M 'The Application of HedonicPricingMethodinEstimating the Relationshipbetween ServicesLevels, thePollution, and HousePricesinSelectedAreasofTabriz.' Journal of Environmental Studies, Vol. 35, No 51, Dec 2009.
- [9]. Palmquist B Raymond and Smith Kerry V August 10, 2001 "The Use of Hedonic Property Value Techniques for Policy and Litigation" International Yearbook of Environmental and Resource Economics, Volume VI.
- [10]. Ramalho A and Ramalho J S Joaquim 'Hedonic functions, hedonic methods, estimation methods and Dutot and Jevons house price indexes: are there any links?' September 2011, Esmeralda Department of Economics and CEFAGE-UE, Universidade de Évora.
- [11]. Richard O. Zerbe Jr. 2001 "A Place to Stand for Environmental Law and Economic Analysis?"
- [12]. Tiwary R K and Dhar B B 'Environmental Pollution from Coal Mining Activities in Damodar River Basin, India.' Central Mining Research Institute, Bihar.
- [13]. Tri8gg B Andrew and Dubourge Richard W 'Valuing the Environmental Impacts of Opencat Coal Mining: The case of The Trent Valley in North Staffordshire.'
- [14]. Wills K G, Nelson G B, Bye A B & Peacock G, 'An Application of the Krutilla Fisher Model to Appraising the Benefits of Green Belt Development versus Site Development.' Journal of Environmental Planning and Management, 36, 1993, pp 73-90.
- [15]. Yamatomi J and Okubo S 'Surface Mining Methods and Equipment' University of Tokyo, Japan.

pendices			
	roduction of coal and o	overburden and Investment	of Khottadih OCP
Year	Coal (million tons)	Overburden (million tons)	Investment (Rs Crore)
1998	0.18	1.27	20.08
1999	0.35	1.87	24.75
2000	0.65	2.07	20.38
2001	0.70	2.14	22.69
2002	0.80	2.21	14.12
2003	0.80	2.78	13.80
2004	0.63	3.01	15.25
2005	0.55	2.23	14.20
2006	0.50	2.40	13.68
2007	0.52	2.40	14.00
2008	0.59	2.84	14.50
2009	0.62	2.73	13.58
2010	0.72	3.08	15.00
2011	0.52	3.29	16.30
2012	0.75	2.30	17.80
2013	1.50	1.21	12.25
2014	1.70	0.54	13.20
2015	2.04	1.01	12.35
2016 (projected)	2.00	1	10

Year	Coal (million tons)	Overburden (million tons)	Investment (Rs Crore)
1998	2.70	14.12	25.60
1999	2.75	14.20	27.60
2000	3.00	13.80	30.24
2001	3.10	13.23	23.25
2002	3.13	12.09	27.54
2003	3.06	11.95	28.26
2004	3.12	11.28	24.56
2005	3.02	11.04	25.63
2006	3.16	11.26	22.63
2007	3.47	11.05	18.56
2008	3.40	10.43	19.54
2009	3.28	10.42	17.26
2010	3.20	10.10	16.32
2011	2.88	10.12	14.23
2012	3.41	9.96	16.23
2013	3.42	10.65	15.25
2014	3.75	12.04	16.23
2015	3.31	12.31	15.50
2016 (projected)	3.50	12.00	15

Table 5: Concentration of Suspended Particulate Matter in Pandaveswar

SI No	Location and Date	Starti	Stoppin g Time	Total Time in	Monomet	er	Filter Weight	Paper	Cyclone Weight	Cup	Cone of RSPM	Cone of NRSPM	Total SPM conc. (ugm ²)
140	Date	Time	g mas	Hrs	Initial Reading	Final Reading	Initial g	Final g	Initial g	Final g	(µgm ²)	(µgm²)	cone. (agar)
1	Pandayeswar	09:30	05:30	8	1.04	1.05	2.783	2.807	12.635	12,350	84.5	41.8	126.3
-	15.09.2016	873	pm	-									
2	Pandayeswar	09:30	05:30	8	1.06	1.05	2,799	2.830	12,580	12.635	96.2	26.1	122.3
	16.09.2016	873	pm										
3	Pandayeswar	09:30	05:30	8	1.07	1.04	2.793	2.836	12.610	12.601	69.5	46.8	116.3
	17.09.2016	873	pm										
4	Pandaveswar	09:30	05:30	8	1.07	1.04	2.784	2.801	12.616	12.624	80.2	44.6	124.8
	18.09.2016	873	pm										
5	Pandaveswar	09:30	05:30	8	1.05	1.05	2.500	2.823	12.319	12.647	48.1	82.5	130.6
	19.09.2016	am	pm										
6	Pandaveswar	09:30	05:30	8	1.04	1.05	2.783	2.807	12.635	12.350	79.1	41.2	120.3
_	20.09.2016	am	pm										
7	Pandaveswar	09:30	05:30	8	1.06	1.05	2.799	2.830	12.580	12.601	90.7	37.9	128.6
	21.09.2016	am 09:30	pm 05:30	8	1.07	1.04	2.793			12.624			1000
8	Pandaveswar 22.09.2016			5	1.07	1.04	2.793	2.836	12.610	12.624	81.3	44.9	126.2
0	22.09.2016 Pandayeswar	am 09:30	pm 05:30	8	1.07	1.04	2.784	2.801	12.616	12.647	84.2	36.2	120.4
2	23.09.2016	am		•	1.07	1.04	2.784	2.801	12.010	12.047	84.2	30.2	120.4
10	Pandayaswar	09:30	pm 05:30	8	1.08	1.08	2.800	2.823	12.319	12.350	64.8	66.1	130.9
10	24.09.2016	am		8	1.08	1.08	2.800	2.823	12.319	12.350	04.8	00.1	130.9
11	Pandayaswar	09:30	pm 05:30	8	1.04	1.05	2.783	2.807	12.635	12.635	74.2	51.7	125.9
**	25.09.2016	am	pm	•	1.04	1.00	2.703	2.007	12.055	12.055	14.20	24.17	120.7
12	Pandayeswar	09:30	05:30	8	1.06	1.05	2.799	2.830	12.580	12.601	70.6	51.9	122.5
	26.09.2016	am	pm		1.00	1.00	4.100	2.000	12.000	*******	10.0	24.0	100.0
13	Pandayaswar	09.30	05:30	8	1.07	1.04	2.793	2.836	12.610	12.624	67.2	57.4	124.6
	25.09.2016	800	pm	-									
14	Pandaveswar	09:30	05:30	8	1.07	1.04	2.784	2,801	12.616	12.647	70.9	48.5	119.4
	29.09.2016	am	pm	-									
15	Pandaveswar	09:30	05:30	8	1.08	1.08	2.800	2.823	12.319	12.350	80.9	49.1	130.9
	30.09.2016	8.773	pm										
16	Pandaveswar	09:30	05:30	8	1.04	1.05	2.783	2.807	12.635	12.635	68.2	52.4	120.6
	01.10.2016	8.773	pm										
17	Pandaveswar	09:30	05:30	8	1.06	1.05	2.799	2.830	12.580	12.601	64.2	51	115.2
	02.10.2016	8.733	pm										
18	Pandaveswar	09:30	05:30	8	1.07	1.04	2.793	2.836	12.610	12.624	76.5	49.4	125.9
10	03.10.2016	am	pm		1.07				10 010	10 010			
19	Pandaveswar	09:30	05:30	8	1.07	1.04	2.784	2.801	12.616	12.647	72.4	44.8	117.2
	04.10.2016	am	pm		1.0.0	1.0.0	3 8 5 5		13 315	13 3 2 5	-		
20	Pandaveswar 05.10.2016	09:30	05:30	8	1.05	1.05	2.800	2.823	12.319	12.350	70.6	57.9	128.5
	05.10.2016	am	pm										

SI	Location and	Starting	Stopping	Total	Monomet		Filter	Paper	Cyclone	Cup	Conc of	Conc of	Total SPM
No	Date and	Time	Time	Time	Reading	er	Weight	raper	Weight	Cup	RSPM	NRSPM	conc.
				in Hrs	Initial	Final	Initial g	Final g	Initial g	Final g	(μgm^3)	(µgm ³)	(µgm ³)
					Reading	Reading	initial B	1 mar 5	initial 5	1 marg			
1	Khottadih OC	08:30	04:30 pm	8	1.06	1.05	2.799	2.830	12.580	12.601	120.5	70.1	190.6
-	15.09.2016	am		-									
2	Khottadih OC	08:30	04:30 pm	8	1.07	1.04	2,793	2.836	12.610	12.624	150.2	58.2	208.4
	16.09.2016	am											
3	Khottadih OC	08:30	04:30 pm	8	1.07	1.04	2.784	2.801	12.616	12.647	157.3	69.2	226.5
	17.08.2016	am	_										
4	Khottadih OC	08:30	04:30 pm	8	1.08	1.08	2.800	2.823	12.319	12.350	120.5	92	212.5
	18.09.2016	am											
5	Khottadih OC	08:30	04:30 pm	8	1.04	1.05	2.783	2.807	12.635	12.635	98.2	99.2	197.4
	19.09.2016	am											
6	Khottadih OC	08:30	04:30 pm	8	1.06	1.05	2.799	2.830	12.580	12.601	110.2	92.1	202.3
_	20.09.2016	am											
7	Khottadih OC	08:30	04:30 pm	8	1.07	1.04	2.793	2.836	12.610	12.624	132.2	100.5	232.7
	21.09.2016	am											
8	Khottadih OC	08:30	04:30 pm	8	1.07	1.04	2.784	2.801	12.616	12.647	160.5	68.1	228.6
09	22.09.2016 Khottadih OC	am 08:30	04:30 pm	8	1.08	1.08	2.800	2.823	12.319	12.350	170.2	60.1	230.3
09	23.09.2016		04:50 pm	8	1.08	1.08	2.800	2.825	12.319	12.550	170.2	60.1	230.3
10	Khottadih OC	am 10:30	04:30 pm	8	1.04	1.05	2.783	2.807	12.635	12.635	186.3	62.3	248.6
10	24.09.2016	am	04:50 pm	•	1.04	1.05	2.765	2.007	12.035	12.055	100.5	02.5	240.0
11	Khottadih OC	08:30	04:30 pm	8	1.06	1.05	2,799	2.830	12,580	12.601	189.3	69.2	258.5
	25.09.2016	am	04.50 pm	·	1.00	1.05	2	2.000	12.500	12.001	100.5	07.2	200.0
12	Khottadih OC	08:30	04:30 pm	8	1.07	1.04	2.793	2.836	12.610	12.624	180.2	76.1	256.3
	26.09.2016	am	o noo piii	·	1.07		2.000	2.000	12.010	12.021	100.2	/0.1	200.0
13	Khottadih OC	08:30	04:30 pm	8	1.07	1.04	2.784	2.801	12.616	12.647	130.5	133.7	264.2
	28.09.2016	am		-									
14	Khottadih OC	08:30	04:30 pm	8	1.08	1.08	2.800	2.823	12.319	12.647	120.6	146.2	266.8
	29.09.2016	am	-										
15	Khottadih OC	08:30	04:30 pm	8	1.04	1.05	2.783	2.807	12.635	12.350	130.3	124.3	254.6
	30.09.2016	am											
16	Khottadih OC	08:30	04:30 pm	8	1.06	1.05	2.799	2.830	12.580	12.635	132.1	100.8	232.9
	01.09.2016	am											
17	Khottadih OC	08:30	04:30 pm	8	1.07	1.04	2.793	2.836	12.610	12.601	164.3	79.9	244.2
	02.09.2016	am											
18	Khottadih OC	08:30	04:30 pm	8	1.07	1.04	2.784	2.801	12.616	12.624	157.5	109	266.5
	03.09.2016	am			1.00								
19	Khottadih OC	08:30	04:30 pm	8	1.08	1.08	2.800	2.823	12.319	12.647	152.5	114.9	267.4
20	04.09.2016	am 08.20	01.20		1.04	1.05	0.702	2.026	12.610	10 404	159.3	101.2	260.5
20	Khottadih OC	08:30	04:30 pm	8	1.06	1.05	2.793	2.836	12.610	12.624	139.3	101.2	200.5
	05.09.2016	am											

Table 6: Concentration of Suspended Particulate Matter in Khottadih OCP

Table 7: Concentration of Suspended Particulate Matter in Sonepur BazariOCP

Sl No	Location and Date	Starting Time	Stopping Time	Total Time in	Monomet	er Reading	Filter Weight	Paper	Cyclone Weight	Cup	Conc of RSPM	Conc of NRSPM	Total SPM conc.
140	Date	Time	Time	Hrs	Initial	Final		Final g	Initialg	Final a	(µgm ³)	(ugm ³)	(ugm ³)
				1113		Reading		rmarg	Inniarg	rmarg	(ngm)	(ugm)	(µgm)
1	Sonepur	11:00 am	07:00 pm	8	1.04	1.05	2.783	2.807	12.635	12.350	96.4	108.4	204.8
•	Bazari OC 15.09.2016												
2	Sonepur Bazari OC 16.09.2016	11:00 am	07:00 pm	8	1.06	1.05	2.799	2.830	12.580	12.635	123.2	89.5	212.7
3	Sonepur Bazari OC 17.09.2016		07:00 pm		1.07	1.04	2.793	2.836	12.610	12.601	130.6	118	248.6
4	Sonepur Bazari OC 18.09.2016		07:00 pm		1.07	1.04	2.784	2.801	12.616	12.624	130.2	90.4	220.6
5	Sonepur Bazari OC 19.09.2016		07:00 pm		1.08	1.08	2.800	2.823	12.319	12.647	121.9	108.7	230.6
6	Sonepur Bazari OC 20.09.2016	11:00 am	07:00 pm	8	1.04	1.05	2.783	2.807	12.635	12.350	123.8	96.7	220.5
7	Sonepur Bazari OC 21.09.2016	11:00 am	07:00 pm	8	1.06	1.05	2.799	2.830	12.580	12.601	120.5	95.4	215.9
8	Sonepur Bazari OC 22.09.2016	11:00 am	07:00 pm	8	1.07	1.04	2.793	2.836	12.610	12.624	132.6	84.3	216.9
9	Sonepur Bazari OC 23.09.2016	11:00 am	07:00 pm	8	1.07	1.04	2.784	2.801	12.616	12.647	147.3	95.3	242.6
10	Sonepur Bazari OC 24.09.2016	11:00 am	07:00 pm	8	1.08	1.08	2.800	2.823	12.319	12.350	156.4	94.4	250.8
11	Sonepur Bazari OC 25.09.2016		07:00 pm		1.04	1.05	2.783	2.807	12.635	12.635	150.6	95	245.6
12	Sonepur Bazari OC 26.09.2016	11:00 am	07:00 pm	8	1.06	1.05	2.799	2.830	12.580	12.601	163.2	95	258.2

13	Sonepur Bazari OC 28.09.2016	11:00 am	07:00 pm	8	1.07	1.04	2.793	2.836	12.610	12.624	174.1	100.8	274.9
14	Sonepur Bazari OC 29.09.2016	11:00 am	07:00 pm	8	1.07	1.04	2.784	2.801	12.616	12.647	168.2	91	259.2
15	Sonepur Bazari OC 30.10.2016	11:00 am	07:00 pm	8	1.08	1.08	2.800	2.823	12.319	12.350	159.3	100.9	260.2
16	Sonepur Bazari OC 01.10.2016	11:00 am	07:00 pm	8	1.04	1.05	2.783	2.807	12.635	12.635	156.2	114.5	270.7
17	Sonepur Bazari OC 02.10.2016	11:00 am	07:00 pm	8	1.06	1.05	2.799	2.830	12.580	12.601	148.7	107.1	255.8
18	Sonepur Bazari OC 03.10.2016	11:00 am	07:00 pm	8	1.07	1.04	2.793	2.836	12.610	12.624	161.3	104.3	265.6
19	Sonepur Bazari OC 04.10.2016	11:00 am	07:00 pm		1.07	1.04	2.784	2.801	12.616	12.647	174.3	93	267.3
20	Sonepur Bazari OC 05.10.2016	11:00 am	07:00 pm	8	1.08	1.08	2.800	2.823	12.319	12.350	170.8	97.7	268.5

Table 8: Daily Noise measurement in the study area

Station	Noise (Decibels per o	lay)	-
	23 rd August, 2015	10 th November, 2015	15 th March, 2016
Training Centre	54.2	53.3	58.5
Kenda	52.3	42.8	50.8
Dahuka	41.8	45.7	43.2
Bilpahari	44.8	52.0	51.6
Dalurbad	49.5	50.1	55.1
Hansdiha	47.9	50.8	52.0
Nabagram	50.1	54.2	52.4

 Table 9: Total Station Reading of Sonepur Bazari OC Project

Sl No	Location (DMS)	RL (mts)	Sl No	Location (DMS)	RL (mts)
1	23° 24' 7.37''N 87° 06' 54.04''E	145	24	23° 24' 16.36''N 87° 07' 14.69''E	160
2	23° 24' 9.32''N 87° 06' 53.25''E	166.54	25	23° 24' 15.63''N 87° 07' 16.82''E	157.8
3	23° 24' 10.65''N 87° 06' 53.25''E	170.12	26	23° 24' 14.20''N 87° 07' 17.63''E	155.05
4	23° 24' 11.68''N 87° 06' 51.54''E	163.57	27	23° 24' 12.63''N 87° 07' 18.64''E	140.25
5	23° 24' 12.36''N 87° 06' 49.52''E	150.38	28	23° 24' 11.36''N 87° 07' 18.69''E	140.35
6	23° 24' 53.65''N 87° 07' 0.66''E	165.45	29	23° 24' 10.65''N 87° 07' 17.42''E	101.61
7	23° 24' 7.85''N 87° 07' 01.63''E	168.96	30	23° 24' 09.36''N 87° 07' 15.52''E	99.82
8	23° 24'9.65''N 87° 07' 0.61''E	162.12	31	23° 24' 07.63''N 87° 07' 11.69''E	149.5
9	23° 24' 52.36'N 87° 07 09.36''E	171.58	32	23° 24' 09.36''N 87° 07' 12.67''E	107.11
10	23° 24' 9.56''N 87° 06' 54.04''E	166.57	33	23° 24' 06.31''N 87° 07' 07.63''E	155
11	23° 24' 7.37''N 87° 06' 57.20''E	150.13	34	23° 24' 08.56''N 87° 07' 21.65''E	77.07
12	23° 24' 16.01''N 87° 06' 51.80''E	143.19	35	23° 24' 7.24''N 87° 07' 21.52''E	77.8
13	23° 24' 18.63''N 87° 06' 51.52''E	146.11	36	23° 24' 7.37''N 87° 07' 22.51''E	74.13
14	23° 24' 18.63''N 87° 06' 56.32''E	168.64	37	23° 24' 7.69''N 87° 07' 23.85''E	66.8
15	23° 24' 17.63''N 87° 07' 07.65''E	162.96	38	23° 23' 58.65''N 87° 07' 58.65''E	67.36
16	23° 24' 15.36''N 87° 07' 09.63''E	116.95	39	23° 24' 10.36''N 87° 07' 39.51''E	22.99
17	23° 24' 13.25''N 87° 07' 09.74''E	118.1	40	23° 24' 01.21''N 87° 07' 41.51''E	25.39
18	23° 24' 12.01''N 87° 07' 10.63''E	112.13	41	23° 24' 02.36''N 87° 07' 41.36''E	-2.53
19	23° 24' 15.20''N 87° 07' 11.58''E	131.76	42	23° 23' 57.52''N 87° 07' 44.21''E	79.04
20	23° 24' 10.25''N 87° 07' 14.26''E	102.52	43	23° 23' 53.24''N 87° 07' 41.95''E	98
21	23° 24' 11.26''N 87° 07' 15.69''E	137.5	44	23° 23' 57.94''N 87° 07' 45.32''E	96
22	23° 24' 11.56''N 87° 07' 17.94''E	133.22	45	23° 23' 53.36''N 87° 07' 41.26''E	96
23	23° 24' 12.08''N 87° 07' 11.12''E	138.2	46	23° 23' 55.24''N 87° 07' 44.36''E	96
47	23° 23' 57.69''N 87° 07' 40.36''E	98	110	23° 24' 14.69''N 87° 08' 07.26''E	64.76
48	23° 23' 56.36''N 87° 07' 43.15''E	98	111	23° 24' 12.58''N 87° 07' 54.05''E	30.01
49	23° 23' 57.36''N 87° 07' 35.85''E	96	112	23° 24' 13.68''N 87° 07' 52.47''E	29.52
50	23° 23' 55.26''N 87° 07' 37.54''E	96	113	23° 24' 14.82''N 87° 07' 51.45''E	88.73
51	23° 23' 56.23''N 87° 07' 56.58''E	96	114	23° 24' 16.36''N 87° 07' 58.90''E	68.94
52	23° 23' 51.24''N 87° 07' 51.64''E	94	115	23° 24' 16.57''N 87° 07' 58.24''E	59.45
53	23° 23' 55.36''N 87° 07' 45.63''E	94	116	23° 24' 17.36''N 87° 07' 58.67''E	59.66
54	23° 23' 57.25''N 87° 07' 48.56''E	94	117	23° 24' 16.27''N 87° 07' 56.14''E	70.18
55	23° 23' 49.25''N 87° 08' 05.96''E	80.25	118	23° 24' 16.45''N 87° 07' 56.78''E	68.86
56	23° 23' 50.36''N 87° 08' 09.24''E	79.92	119	23° 24' 18.45''N 87° 07' 58.78''E	60.42
57	23° 23' 52.36''N 87° 08' 09.87''E	79.34	120	23° 24' 19.67''N 87° 07' 58.45''E	63.56
58	23° 23' 52.46''N 87° 08' 09.61''E	67.05	121	23° 24' 17.68''N 87° 07' 17.54''E	61.44
59	23° 23' 53.24''N 87° 08' 11.28''E	67.04	122	23° 24' 16.57''N 87° 07' 53.58''E	70.81
60	23° 23' 55.98''N 87° 08' 14.64''E	82.15	123	23° 24' 15.67''N 87° 07' 52.78''E	71.2

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GIS Based Assessmentand Evaluation of the Environmental Impacts of Opencast Coal Miningin

61 23* 23* 864 °** 87* 06* 14.85* C 73.48 124 23* 24* 125*** 70* 75.36*** 1.72.0 63 23* 23* 56.8*** 87* 08* 11.28*** 127 23* 24* 11.55**** 77* 50.8*** 1.6.99 64 23* 23* 56.8*** 87* 08*** 128 23* 24* 11.55**** 17* 07* 50.8*** 1.6.99 65 23* 23* 56.8*** 87* 08*** 106 23* 24* 11.55**** 17* 07* 50.8*** 1.6.24 117* 108**** 107* 107* 108**** 107* 107 108**** 107* 108***** 107* 108**** 107* 108***** 107* 108***** 108**** 107* 108******** 107* 108****************************** 107* 108************************************							
63 222 23 6.87 NR 708 608 57.21 52.24 127 232 241 137 NR 70 75.89 76 23.20 65 232 23 56.36 NR 70 65.08 232 241 138 77 78.59 76 60.71 232 232 138 78.70 74.85 76 70.71 66 232 235 56.87 NR 70 60.72 71.71 78.70 77.77 76 73.22 15.67 NR 70 70.74 77.7 71 232 241 0.53 131 232 241 15.57 NR 70 74.67 72.27 74 73.2 71 232 241 0.36 NR 70 74.80 77.2 232 241 0.36 NR 70 74.80 77.2 12.22 10.36 NR 70 74.80 77.2 10.62 13.8 232 241 16.67 NR 70 74.50 16.52 13.3 232 241 16.67 NR 70 74.50 17.22 12.02 10.02	61	23° 23' 58.64''N 87° 08' 14.85''E	73.48	124	23° 24' 13.57''N 87° 07' 53.04''E	65.9	
63 222 23 6.87 NR 708 608 57.21 52.24 127 232 241 137 NR 70 75.89 76 23.20 65 232 23 56.36 NR 70 65.08 232 241 138 77 78.59 76 60.71 232 232 138 78.70 74.85 76 70.71 66 232 235 56.87 NR 70 60.72 71.71 78.70 77.77 76 73.22 15.67 NR 70 70.74 77.7 71 232 241 0.53 131 232 241 15.57 NR 70 74.67 72.27 74 73.2 71 232 241 0.36 NR 70 74.80 77.2 232 241 0.36 NR 70 74.80 77.2 12.22 10.36 NR 70 74.80 77.2 10.62 13.8 232 241 16.67 NR 70 74.50 16.52 13.3 232 241 16.67 NR 70 74.50 17.22 12.02 10.02	62	23° 23' 58.45''N 87° 08' 11.28''E	54.73	125	23° 24' 11.58''N 87° 07' 53.67''E	17.26	
64 23? 23? 55.86."N 87" 00" 65.27" 52.44 127 23? 23? 13.87" N 87" 07" 75.08.9" 62.31 66 23? 23? 55.88" N 87" 06" 05.87" 87 06" 23? 23? 55.88" N 87" 06" 06.85" 59.38 130 23? 23? 15.88" N 87" 07" 74.68.7" 90.33 69 23? 24? 05.87" N 87" 00" 75.06.8" 93.33 70 23? 24? 03.6" N 87" 00" 75.06.8" 97.37 71 12? 24" 03.6" N 87" 00" 75.07" 16.05.5 71 23? 24" 03.4" N 87" 07" 74.86.9" 10.65.5 73 23? 24" 02.4" N 87" 07" 74.52" 10.66 138 23? 24" 16.4" N 87" 07" 74.52" 10.66 75 23" 24" 0.4" N 87" 07" 74.52" 10.66 138 23" 24" 15.4" N 87" 07" 74.52" 10.66 137 23"	63						
65 227 227 56.36" N 87" 08 00.23" 64.80 128 227 247 13.37" N 87" 07 45.59" Fe 0.231 66 272 27 56.87" N 87" 08 00.23" 6.90 129 237 247 15.89" N 87" 07 49.54" 90.31 67 237 237 55.69" N 87" 08 07.80" 16.03 131 237 247 15.97" N 87" 07 49.54" 90.33 69 237 247 0.36" N 87" 08 70.80" 121" 11.05 133 237 247 15.67" N 87" 07 49.67" 90.337 71 237 247 0.36" N 87" 08 70.86" 121 10.5 133 237 247 16.57" N 87" 07 49.67" 90.77 72 237 241 0.36" N 87" 08 70.65" 15.578 155 237 247 16.54" N 87" 07 47.52" 100.12 74 237 241 0.24" N 87" 07 45.07" 10.05 237 247 16.34" N 87" 07 45.97" 100.12 74 237 241 0.24" N 87" 07 45.07" 6.00" 138 237 241 16.31" N 87" 07 45.97" 6.04.84 76 237 241 0.24" N 87" 07 56.07" 5.09" 139 237 241 16.31" N 87" 07 44.85" 118.47 77 237 241 0.24" N 87" 07 56.07" 5.09" 139 237 241 16.31" N 87" 07 44.85" 118.47 <							
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68 232 23*8.60*70 87*0 87*0 87*0 30.64*E 93.93 69 252 24*10.56*10 87*0 68*07.63*E 10.624 132 23*24*10.65*178 97*0 45.04*E 90.38 70 23*24*10.56*178 97*0 88*0.64*E 2.105 133 23*24*17.65*178 97*0 45.04*E 97.47 71 23*24*10.56*178 97*0 55.04*E 2.5.78 135 23*24*15.89*178*07*07*45.04*E 106.5 73 23*24*10.23*178 70*07.45.27*E 15.25 137 23*24*16.49*178*07*07*45.27*E 106.6 75 23*24*10.23*178*70*07*59.07*E 5.709 139 23*24*15.40*178*0*07*45.27*E 16.62 78 23*24*10.26*178*70*07*46.27*E 5.709 139 23*24*15.30*18*7*07*45.27*E 19.01 79 23*24*0.24*178*70*0*59.57*E 14.23 144 23*24*16.5*18*7*0*744.20*E 118.47 80 23*24*0.24*18*7*0*79*0*0*25*E 14.23 144 23*24*16.3*18*0*0*74.440*12*E 118.47 81 23*24*0.44*178*7*0*75.25*E 14.23 23*24*16.3*18*0*0*74.440*12*E 118.47 82 23*24*0.42*18*18*0*0*0*54*E 1.423 23*24*10.65*18*0*0*74*4.40*1	66	23° 23' 55.98''N 87° 08' 02.28''E	56.97	129	23° 24' 13.89''N 87° 07' 46.87''E	60.71	
69 232: 241: 0.57"N 87": 07: 49.7"E 16.24 132 222: 241: 0.57"N 87": 07: 49.67"E 10.28 71 232: 241: 0.25"N 87": 087: 09: 0.31"E 21.05 133 232: 241: 0.5"N 87": 08.0"E 97.34 71 232: 241: 0.36"N 87": 087: 0.65"E 25.78 135 232: 241: 0.67"N 87": 07: 45.0"E 106.55 73 232: 241: 0.26"N 87": 087: 040: 0.25"E 136 232: 241: 0.26"N 87": 07: 04.82"E 106.61 74 232: 241: 0.26"N 87": 087: 05.25"E 5.79 139 232: 241: 1.50"N 87": 07: 45.0"E 6.64.4 76 232: 241: 0.26"N 87": 07: 59.77"E 1.4.23 1.44 232: 241: 1.50"N 87": 07: 45.0"E 6.64.4 77 232: 241: 0.36"N 87": 07: 59.77"E 1.4.23 1.44 232: 241: 1.50"N 87": 07: 44.62"E 59.937 78 232: 241: 0.36"N 87": 07: 44.82"E 1.8.14 124: 232: 241: 1.06"N 87": 07: 44.62"E 18.44 80 232: 244: 0.44"N 87": 08: 0.06"E 1.8.12 1.42: 232: 241: 1.06"N 87": 07: 43.62"E 57.59 81 232: 244: 0.45"N 87": 07: 05: 0.0"E 7.46 144 232: 241: 0.60"F 8.75 82 <td>67</td> <td>23° 23' 56.87''N 87° 08' 06.85''E</td> <td>59.38</td> <td>130</td> <td>23° 24' 15.68''N 87° 07' 49.54''E</td> <td>91.77</td>	67	23° 23' 56.87''N 87° 08' 06.85''E	59.38	130	23° 24' 15.68''N 87° 07' 49.54''E	91.77	
69 232: 241: 0.57"N 87": 07: 49.7"E 16.24 132 222: 241: 0.57"N 87": 07: 49.67"E 10.28 71 232: 241: 0.25"N 87": 087: 09: 0.31"E 21.05 133 232: 241: 0.5"N 87": 08.0"E 97.34 71 232: 241: 0.36"N 87": 087: 0.65"E 25.78 135 232: 241: 0.67"N 87": 07: 45.0"E 106.55 73 232: 241: 0.26"N 87": 087: 040: 0.25"E 136 232: 241: 0.26"N 87": 07: 04.82"E 106.61 74 232: 241: 0.26"N 87": 087: 05.25"E 5.79 139 232: 241: 1.50"N 87": 07: 45.0"E 6.64.4 76 232: 241: 0.26"N 87": 07: 59.77"E 1.4.23 1.44 232: 241: 1.50"N 87": 07: 45.0"E 6.64.4 77 232: 241: 0.36"N 87": 07: 59.77"E 1.4.23 1.44 232: 241: 1.50"N 87": 07: 44.62"E 59.937 78 232: 241: 0.36"N 87": 07: 44.82"E 1.8.14 124: 232: 241: 1.06"N 87": 07: 44.62"E 18.44 80 232: 244: 0.44"N 87": 08: 0.06"E 1.8.12 1.42: 232: 241: 1.06"N 87": 07: 43.62"E 57.59 81 232: 244: 0.45"N 87": 07: 05: 0.0"E 7.46 144 232: 241: 0.60"F 8.75 82 <td>68</td> <td>23° 23'58 69''N 87° 08' 03 29''E</td> <td>60.53</td> <td>131</td> <td>23° 24' 15 89''N 87° 07' 50 68''E</td> <td>93 93</td>	68	23° 23'58 69''N 87° 08' 03 29''E	60.53	131	23° 24' 15 89''N 87° 07' 50 68''E	93 93	
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11 227:24*10.36*1% 87*06*10.45*1% 134 227:24*16.85*1% 87*07*25.26*E 97.4 12 227:44*10.36*1% 87*06*10.45*1% 136 227:24*16.65*1% 87*07*45.27*E 106.55 13 227:24*10.25*1% 87*06*10.52*E 152.5 137 227:24*16.67*1% 87*07*45.27*E 106.12 14 227:24*10.25*1% 87*06*10.25*E 152.5 137 227:24*16.01*1% 87*07*45.27*E 106.12 15 227:24*10.26*1% 87*07*56.7*E 140.0 227:24*14.05*1% 87*07*45.29*E 79.89 78 227:24*10.25*1% 87*07*59.75*E 142.3 141 237:24*10.53*1% 87*07*44.29*E 118.47 80 237:24*0.35*1% 87*07*05*00*E -8.13 142 237:24*10.55*1% 87*07*39.35*E 118.47 81 237:24*0.45*1% 87*06*0.00*E -8.13 142 237:24*10.45*1% 87*07*39.44*E 118.45 81 237:24*0.45*1% 87*07*56.0*E -1.46 144 237:24*10.45*1% 87*07*39.44*E 118.45 82 237:24*0.45*1% 87*07*52.45*E -1.234 132*24*0.57*1% 87*07*34.26*1% 148.44 86 237:24*0.45*1% 87*07*07*52.45*E -1.234 232*24*0.56*1%							
12 232 24' 0.13" N 87° 06' 0.3.5" 25.78 135 232 24' 15.89" N 87° 07' 34.69"E 106.55 74 232 24' 0.29" N 87° 06' 0.29" E 15.25 137 232 24' 16.48" N 87° 07' 45.02" E 15.25 75 232 24' 0.29" N 87° 00' 29.2" E 15.25 137 232 24' 15.6" N 87° 07' 45.0" E 59.01 72 23' 24' 0.26" N 87° 07' 59.6" E 5709 139 23' 24' 15.0" N 87° 07' 45.0" E 59.937 78 23' 24' 0.26" N 87° 07' 59.75" E 14.23 141 23' 24' 15.3" N 87° 07' 43.0" E 59.937 78 23' 24' 0.35' N 87' 06' 0.60" E 44.1 142 23' 24' 15.6" N 87° 07' 42.39" E 79.89 79 23' 24' 0.43" N 87' 06' 0.60" E -4.1 142 23' 24' 10.65" N 87' 04' 42.0" E 118.47 81 23' 24' 0.42" N 87' 07' 55.20" E -12.3 144 23' 24' 10.65" N 87' 07' 44.0" E 15.84 82 23' 24' 0.45" N 87' 07' 55.20" E -3.14 12' 24' 10.6" N 87' 07' 42.04" E 14.84 83 23' 24' 0.55" N 87' 07' 44.0" E 13.44 12' 24' 10.6" N 87' 07' 44.04" E 12.34 84	70			133			
T3 23° 24' 16.5" N 87° 07' 45.2° IF 106.12 T4 23° 24' 10.58" N 87° 00' 10.2° IF 15.25 137 23° 24' 11.66" N 87° 07' 45.0° IF 66.4 T5 23° 24' 02.0° N 87° 00' 59.0° IF 5.799 139 23° 24' 11.66" N 87° 07' 45.0° IF 66.4 T6 23° 24' 02.60" N 87° 07' 59.67" IF 5.799 139 23° 24' 15.0° N 87° 07' 43.0° IF 66.4 T6 23° 24' 0.36" N 87° 07' 59.67" IF 9.01 140 22° 24' 15.36" N 87° 07' 43.0° IF 79.89 T8 23° 24' 0.36" N 87° 00' 105" IF 8.13 142 22° 24' 16.35" N 87° 07' 44.0° IF 11.84 80 23° 24' 0.43" N 87° 08' 0.06" IF 9.02 144 23° 24' 10.65" N 87° 07' 44.0° IF 15.84 31 32° 24' 0.67" N 87° 07' 59.0° IF -9.02 145 23° 24' 10.67" N 87° 07' 41.0° IF 15.84 328° 24' 0.40 (S" N 87° 07' 55.0° IF -12.34 147 23° 24' 10.67" N 87° 07' 41.0° IF 15.84 328° 24' 0.40 (S" N 87° 07' 55.30" IF -13.14 152 23° 24' 10.67" N 87° 07' 42.04" IF 14.84 86 23° 24' 0.40 (S" N 87° 07' 55.30" IF -13.1	71	23° 24' 01.36''N 87° 08' 06.48''E	21.05	134	23° 24' 18.65''N 87° 07' 52.68''E	97.4	
74 23° 24' 0.23° N 87° 08' 0.23° TE 15.25 137 23° 24' 16.48° N 87° 07' 45.07° TE 106.6 75 23° 24' 0.23° N 87° 08' 0.24° TE 16.62 138 23° 24' 15.61° N 87° 07' 45.07° TE 66.4 76 23° 24' 0.26° N 87° 07' 58.97° TE 9.01 140 23° 24' 15.36° N 87° 07' 45.07° TE 68.48 78 23° 24' 0.36° N 87° 08' 0.07° TE 4.33 141 23° 24' 16.35° N 87° 07' 44.52° TE 118.47 80 23° 24' 0.43° N 87° 08' 0.06° TE 4.33 144 23° 24' 14.21° N 87° 07' 44.32° TE 118.45 81 23° 24' 0.43° N 87° 08' 0.06° TE -9.02 144 23° 24' 14.21° N 87° 07' 46.32° TE 118.45 82 23° 24' 0.36° N 87° 08' 0.06° TE -9.02 148 23° 24' 10.67° N 87° 07' 34.62° TE 19.27 83 23° 24' 0.36° N 87° 07' 55.28° TE -1.234 147 23° 24' 10.67° N 87° 07' 44.02° TE 19.27 84 23° 24' 0.45° N 87° 07' 55.87° TE -1.341 152 23° 24' 0.63° N 87° 07' 44.09° TE 1.48 85 23° 24' 0.56° N 87° 07' 55.87° TE -1.341 152 23° 24' 40.33° N 87° 07' 44.09° T	72	23° 24' 01.36''N 87° 08' 03.65''E	25.78	135	23° 24' 15.89''N 87° 07' 48.69''E	106.55	
74 23° 24' 0.23° N 87° 08' 0.23° TE 15.25 137 23° 24' 16.48° N 87° 07' 45.07° TE 106.6 75 23° 24' 0.23° N 87° 08' 0.24° TE 16.62 138 23° 24' 15.61° N 87° 07' 45.07° TE 66.4 76 23° 24' 0.26° N 87° 07' 58.97° TE 9.01 140 23° 24' 15.36° N 87° 07' 45.07° TE 68.48 78 23° 24' 0.36° N 87° 08' 0.07° TE 4.33 141 23° 24' 16.35° N 87° 07' 44.52° TE 118.47 80 23° 24' 0.43° N 87° 08' 0.06° TE 4.33 144 23° 24' 14.21° N 87° 07' 44.32° TE 118.45 81 23° 24' 0.43° N 87° 08' 0.06° TE -9.02 144 23° 24' 14.21° N 87° 07' 46.32° TE 118.45 82 23° 24' 0.36° N 87° 08' 0.06° TE -9.02 148 23° 24' 10.67° N 87° 07' 34.62° TE 19.27 83 23° 24' 0.36° N 87° 07' 55.28° TE -1.234 147 23° 24' 10.67° N 87° 07' 44.02° TE 19.27 84 23° 24' 0.45° N 87° 07' 55.87° TE -1.341 152 23° 24' 0.63° N 87° 07' 44.09° TE 1.48 85 23° 24' 0.56° N 87° 07' 55.87° TE -1.341 152 23° 24' 40.33° N 87° 07' 44.09° T	73	23° 24' 02.54''N 87° 08' 04.20''E	30.14	136	23° 24' 16.67''N 87° 07' 47.52''E	106.12	
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76 23° 24' 12.0°N 87° 07' 45.0°E 5.799 139 23° 24' 14.20°N 87° 07' 45.0°E 68.48 77 23° 24' 0.64°N 87° 00' 59.75°E 14.21 24° 24' 15.36°N 87° 00' 74.62°E 59.937 78 23° 24' 0.52°N 87° 07' 59.75°E 14.22 24° 15.36°N 87° 00' 74.20°E 79.89 79 23° 24' 0.53°N 87° 00' 0.16°E -8.13 141 23° 24' 16.35°N 87° 07' 44.0°E 118.47 81 23° 24' 0.43°N 87° 08' 0.06°E 23.378 144 23° 24' 11.05°N 87° 07' 44.0°E 118.45 81 23° 24' 0.26°N 87° 00' 55.28°E -9.02 145 23° 24' 10.67°N 87° 07' 39.84°E 15.84 83 23° 24' 0.36°N 87° 07' 55.28°E -12.34 147 23° 24' 10.67°N 87° 07' 42.04°E 19.27 84 23° 24' 0.45°N 87° 07' 59.68°E -13.14 150 23° 24' 0.43°N 87° 07' 42.04°E 14.84 87 23° 24' 0.45°N 87° 07' 59.68°E -13.14 152 23° 24' 0.46°N 87° 07' 44.04°E 14.84 88 23° 24' 0.46°N 87° 07' 59.68°E -13.14 152 23° 24' 0.46°N 87° 07' 44.04°E 14.85 92 23° 24' 0.56°N 87° 0	-						
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	-						
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	76	23° 24' 02.69''N 87° 07' 59.67''E	5.799	139	23° 24'14.20''N 87° 07' 45.00''E	68.48	
$ \begin{array}{c} \hline 19 & 23^{\circ} 24^{\circ} 0.36^{\circ} N.8^{\circ} 0.9^{\circ} 0.9^{\circ} E & 18.32 & 142 & 23^{\circ} 24^{\circ} 1.65^{\circ} N.8^{\circ} 0^{\circ} 7.44.20^{\circ} E & 11.84.5 \\ \hline 18.45 & 23^{\circ} 24^{\circ} 0.428^{\circ} N.8^{\circ} 0.9^{\circ} 0.96^{\circ} E & -9.02 & 145 & 23^{\circ} 24^{\circ} 1.65^{\circ} N.8^{\circ} 0^{\circ} 7.34.6^{\circ} E & 57.59 \\ \hline 18.2 & 23^{\circ} 24^{\circ} 0.428^{\circ} N.8^{\circ} 0^{\circ} 0.96^{\circ} E & -9.02 & 145 & 23^{\circ} 24^{\circ} 1.162^{\circ} N.8^{\circ} 0^{\circ} 7.36.0^{\circ} E & 19.27 \\ \hline 18.3 & 23^{\circ} 24^{\circ} 0.26^{\circ} N.8^{\circ} 0^{\circ} 7.56.0^{\circ} E & -7.46 & 146 & 23^{\circ} 24^{\circ} 1.06^{\circ} N.8^{\circ} 0^{\circ} 7.36.0^{\circ} E & 19.27 \\ \hline 18.2 & 23^{\circ} 24^{\circ} 0.36^{\circ} N.8^{\circ} 0^{\circ} 7.55.0^{\circ} E & -33.09 & 148 & 23^{\circ} 24^{\circ} 1.06^{\circ} N.8^{\circ} 0^{\circ} 7.46.0^{\circ} E & 1.88 \\ \hline 23^{\circ} 24^{\circ} 0.45^{\circ} N.8^{\circ} 0^{\circ} 7.55.2^{\circ} E & -33.09 & 148 & 23^{\circ} 24^{\circ} 0.6^{\circ} N.8^{\circ} 0^{\circ} 7.46.0^{\circ} E & 1.48 \\ \hline 18.2 & 23^{\circ} 24^{\circ} 0.45^{\circ} N.8^{\circ} 0^{\circ} 7.56.0^{\circ} E & -31.43 & 150 & 23^{\circ} 24^{\circ} 0.84^{\circ} N.8^{\circ} 0^{\circ} 7.46.0^{\circ} E & 1.48 \\ \hline 18.2 & 23^{\circ} 24^{\circ} 0.45^{\circ} N.8^{\circ} 0^{\circ} 7.56.0^{\circ} E & -13.14 & 152 & 23^{\circ} 24^{\circ} 0.84^{\circ} N.8^{\circ} 0^{\circ} 7.46.0^{\circ} E & 1.58 \\ \hline 23^{\circ} 24^{\circ} 0.45^{\circ} N.8^{\circ} 0^{\circ} 7.56.0^{\circ} E & -15.14 & 152 & 23^{\circ} 24^{\circ} 0.36^{\circ} N.8^{\circ} 0^{\circ} 7.46.6^{\circ} E & 1.58 \\ 23^{\circ} 24^{\circ} 0.65^{\circ} N.8^{\circ} 0^{\circ} 7.56.0^{\circ} E & 3.126 & 155 & 23^{\circ} 24^{\circ} 0.35^{\circ} N.8^{\circ} 0^{\circ} 7.46.6^{\circ} E & 1.54 \\ 23^{\circ} 24^{\circ} 0.65^{\circ} N.8^{\circ} 0^{\circ} 7.56.0^{\circ} E & 3.126 & 155 & 23^{\circ} 24^{\circ} 0.35^{\circ} N.8^{\circ} 0^{\circ} 7.46.6^{\circ} E & 1.54 \\ 23^{\circ} 24^{\circ} 0.65^{\circ} N.8^{\circ} 0^{\circ} 7.56.0^{\circ} E & 3.143 & 155 & 23^{\circ} 24^{\circ} 0.35^{\circ} N.8^{\circ} 0^{\circ} 7.46.8^{\circ} E & 1.54 \\ 23^{\circ} 24^{\circ} 0.65^{\circ} N.8^{\circ} 0^{\circ} 0^{\circ} 1.66 & 152 & 224^{\circ} 0.35^{\circ} N.8^{\circ} 0^{\circ} 7.46.8^{\circ} E & 1.52.4 \\ 23^{\circ} 24^{\circ} 0.65^{\circ} N.8^{\circ} 0^{\circ} 0$	77	23° 24' 02.64''N 87° 07' 58.97''E	-9.01	140	23° 24' 15.00''N 87° 07' 43.62''E	59.937	
$ \begin{array}{c} \hline 19 & 23^{\circ} 24^{\circ} 0.36^{\circ} N.8^{\circ} 0.9^{\circ} 0.9^{\circ} E & 18.32 & 142 & 23^{\circ} 24^{\circ} 1.65^{\circ} N.8^{\circ} 0^{\circ} 7.44.20^{\circ} E & 11.84.5 \\ \hline 18.45 & 23^{\circ} 24^{\circ} 0.428^{\circ} N.8^{\circ} 0.9^{\circ} 0.96^{\circ} E & -9.02 & 145 & 23^{\circ} 24^{\circ} 1.65^{\circ} N.8^{\circ} 0^{\circ} 7.34.6^{\circ} E & 57.59 \\ \hline 18.2 & 23^{\circ} 24^{\circ} 0.428^{\circ} N.8^{\circ} 0^{\circ} 0.96^{\circ} E & -9.02 & 145 & 23^{\circ} 24^{\circ} 1.162^{\circ} N.8^{\circ} 0^{\circ} 7.36.0^{\circ} E & 19.27 \\ \hline 18.3 & 23^{\circ} 24^{\circ} 0.26^{\circ} N.8^{\circ} 0^{\circ} 7.56.0^{\circ} E & -7.46 & 146 & 23^{\circ} 24^{\circ} 1.06^{\circ} N.8^{\circ} 0^{\circ} 7.36.0^{\circ} E & 19.27 \\ \hline 18.2 & 23^{\circ} 24^{\circ} 0.36^{\circ} N.8^{\circ} 0^{\circ} 7.55.0^{\circ} E & -33.09 & 148 & 23^{\circ} 24^{\circ} 1.06^{\circ} N.8^{\circ} 0^{\circ} 7.46.0^{\circ} E & 1.88 \\ \hline 23^{\circ} 24^{\circ} 0.45^{\circ} N.8^{\circ} 0^{\circ} 7.55.2^{\circ} E & -33.09 & 148 & 23^{\circ} 24^{\circ} 0.6^{\circ} N.8^{\circ} 0^{\circ} 7.46.0^{\circ} E & 1.48 \\ \hline 18.2 & 23^{\circ} 24^{\circ} 0.45^{\circ} N.8^{\circ} 0^{\circ} 7.56.0^{\circ} E & -31.43 & 150 & 23^{\circ} 24^{\circ} 0.84^{\circ} N.8^{\circ} 0^{\circ} 7.46.0^{\circ} E & 1.48 \\ \hline 18.2 & 23^{\circ} 24^{\circ} 0.45^{\circ} N.8^{\circ} 0^{\circ} 7.56.0^{\circ} E & -13.14 & 152 & 23^{\circ} 24^{\circ} 0.84^{\circ} N.8^{\circ} 0^{\circ} 7.46.0^{\circ} E & 1.58 \\ \hline 23^{\circ} 24^{\circ} 0.45^{\circ} N.8^{\circ} 0^{\circ} 7.56.0^{\circ} E & -15.14 & 152 & 23^{\circ} 24^{\circ} 0.36^{\circ} N.8^{\circ} 0^{\circ} 7.46.6^{\circ} E & 1.58 \\ 23^{\circ} 24^{\circ} 0.65^{\circ} N.8^{\circ} 0^{\circ} 7.56.0^{\circ} E & 3.126 & 155 & 23^{\circ} 24^{\circ} 0.35^{\circ} N.8^{\circ} 0^{\circ} 7.46.6^{\circ} E & 1.54 \\ 23^{\circ} 24^{\circ} 0.65^{\circ} N.8^{\circ} 0^{\circ} 7.56.0^{\circ} E & 3.126 & 155 & 23^{\circ} 24^{\circ} 0.35^{\circ} N.8^{\circ} 0^{\circ} 7.46.6^{\circ} E & 1.54 \\ 23^{\circ} 24^{\circ} 0.65^{\circ} N.8^{\circ} 0^{\circ} 7.56.0^{\circ} E & 3.143 & 155 & 23^{\circ} 24^{\circ} 0.35^{\circ} N.8^{\circ} 0^{\circ} 7.46.8^{\circ} E & 1.54 \\ 23^{\circ} 24^{\circ} 0.65^{\circ} N.8^{\circ} 0^{\circ} 0^{\circ} 1.66 & 152 & 224^{\circ} 0.35^{\circ} N.8^{\circ} 0^{\circ} 7.46.8^{\circ} E & 1.52.4 \\ 23^{\circ} 24^{\circ} 0.65^{\circ} N.8^{\circ} 0^{\circ} 0$	78	23° 24' 03.52''N 87° 07' 59.75''E	14.23	141	23° 24' 15.36''N 87° 07' 42.39''E	79.89	
1 23° 24° 04 98''N 87° 08'' 0.98''E 23.378 144 23° 24' 11.08''N 87° 07'' 39.64''E 15.84 82 23° 24' 0.267''N 87° 07' 56.09''E -9.02 145 23° 24' 11.08''N 87° 07'' 39.64''E 15.84 83 23° 24' 0.267''N 87° 07' 55.08''E -12.34 147 23° 24' 10.67''N 87° 07'' 42.69''E 188 85 23° 24' 0.369''N 87° 07'' 55.28''E -33.09 148 23° 24' 10.67''N 87° 07'' 42.69''E 148 86 23° 24' 0.569''N 87° 07' 55.27'E -83.7 149 23° 24' 0.68''N 87° 07' 43.04''E 1.48 87 23° 24' 0.569''N 87° 07' 55.07'E -81.43 150 23° 24' 0.83''N 87° 07' 43.04''E 1.48 88 23° 24' 0.426'N 87° 07' 55.07'E -5.942 153 23° 24' 0.83''N 87° 07' 43.04''E 1.58 90 23° 24' 0.426'N 87° 08' 0.42''E 2.80 156 23° 24' 0.032''N 87° 07' 44.04''E -23.39 91 23° 24' 0.651''N 87° 08' 0.42''E 2.80 156 23° 24' 0.632''N 87° 07' 44.04''E -23.39 94 23° 24' 0.651''N 87° 07' 56.80''E 1.80 155 23° 24' 0.52''N 87° 07' 44.04''E	-						
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83 23° 24' 0.67"N 87° 07' 55.09"E 7.46 146 23° 24' 0.67"N 87° 07' 31.67"E 19.27 84 23° 24' 0.369"N 87° 07' 55.28"E -12.34 147 23° 24' 10.67"N 87° 07' 41.69"E 21.86 85 23° 24' 0.369"N 87° 07' 55.28"E -33.09 148 23° 24' 0.67"N 87° 07' 42.69"E 14.84 86 23° 24' 0.45"N 87° 07' 55.27"E -8.37 149 23° 24' 0.67"N 87° 07' 42.69"E 14.84 87 23° 24' 0.66"N 87° 07' 59.80"E -13.14 152 23° 24' 0.64"N 87° 07' 40.46"E 15.84 90 23° 24' 0.66"N 87° 07' 59.80"E -13.14 152 23° 24' 0.81"N 87° 07' 46.80"E 8.47 91 23° 24' 0.66"N 87° 07' 59.87"E 35.01 55 23° 24' 0.51"N 87° 07' 46.80"E 12.34 92 23° 24' 0.54"N 87° 08' 0.61"E 2.04 157 23° 24' 0.53"N 87° 07' 44.04"E -23.39 94 23° 24' 0.63"N 87° 07' 59.82"E -18.09 158 23° 24' 0.35"N 87° 07' 44.04"E -23.39 95 23° 24' 0.53"N 87° 07' 50.87"E 19.85 159 23° 24' 0.53"N 87° 07' 44.04"E -23.51 <	-						
84 23* 24* 0.3 64* N 87* 07* 55 28* E 1-2.3.4 147 23* 24* 10.21* N 87* 07* 41.69* E 21.86 85 23* 24* 0.3 69* N 87* 07* 55 22* E -33.09 148 23* 24* 10.21* N 87* 07* 41.69* E 14.84 86 23* 24* 0.4 57** N 87* 07* 53.05* E 8.37 149 23* 24* 0.834** N 87* 07* 44.69* E 14.8 87 23* 24* 0.65** N 87* 07* 53.68* E -17.26 151 23* 24* 0.834** N 87* 07* 43.64** E 159 90 23* 24* 0.66** N 87* 07* 59.68* E -17.26 154 23* 24* 0.834** N 87* 07* 36.6** E 44.7 91 23* 24* 0.64** N 87* 08* 0.46** E 32.26 154 23* 24* 0.63** N 87* 07* 46.9** E 42.55 92 23* 24* 0.65** N 87* 08* 0.47** E 38.03 155 23* 24* 0.53** N 87* 07* 44.0** E 23.34 93 23* 24* 0.54** N 87* 07* 56.8** E -18.09 158 23* 24* 0.53** N 87* 07* 44.0** E 23.34 94 23* 24* 0.54** N 87* 07* 56.9** E 12.80 159 23* 24* 0.53** N 87* 07* 44.0** E 23.34 95 23* 24* 0.54** N 87* 07* 56.9** E 159 23* 24* 0.53** N 87* 07* 44.9** E <td< td=""><td>82</td><td>23° 24' 04.28''N 87° 08' 0.69''E</td><td>-9.02</td><td>145</td><td>23° 24' 11.08''N 87° 07' 39.84''E</td><td>15.84</td></td<>	82	23° 24' 04.28''N 87° 08' 0.69''E	-9.02	145	23° 24' 11.08''N 87° 07' 39.84''E	15.84	
84 23* 24* 0.3 64* N 87* 07* 55 28* E 1-2.3.4 147 23* 24* 10.21* N 87* 07* 41.69* E 21.86 85 23* 24* 0.3 69* N 87* 07* 55 22* E -33.09 148 23* 24* 10.21* N 87* 07* 41.69* E 14.84 86 23* 24* 0.4 57** N 87* 07* 53.05* E 8.37 149 23* 24* 0.834** N 87* 07* 44.69* E 14.8 87 23* 24* 0.65** N 87* 07* 53.68* E -17.26 151 23* 24* 0.834** N 87* 07* 43.64** E 159 90 23* 24* 0.66** N 87* 07* 59.68* E -17.26 154 23* 24* 0.834** N 87* 07* 36.6** E 44.7 91 23* 24* 0.64** N 87* 08* 0.46** E 32.26 154 23* 24* 0.63** N 87* 07* 46.9** E 42.55 92 23* 24* 0.65** N 87* 08* 0.47** E 38.03 155 23* 24* 0.53** N 87* 07* 44.0** E 23.34 93 23* 24* 0.54** N 87* 07* 56.8** E -18.09 158 23* 24* 0.53** N 87* 07* 44.0** E 23.34 94 23* 24* 0.54** N 87* 07* 56.9** E 12.80 159 23* 24* 0.53** N 87* 07* 44.0** E 23.34 95 23* 24* 0.54** N 87* 07* 56.9** E 159 23* 24* 0.53** N 87* 07* 44.9** E <td< td=""><td>83</td><td>23° 24' 02.67''N 87° 07' 56.09''E</td><td>-7.46</td><td>146</td><td>23° 24' 10.67''N 87° 07' 39.67''E</td><td>19.27</td></td<>	83	23° 24' 02.67''N 87° 07' 56.09''E	-7.46	146	23° 24' 10.67''N 87° 07' 39.67''E	19.27	
85 23° 24′ 0.50°TN 87° 07′ 52.48°TE 33.09 148 23° 24′ 0.68°TN 87° 07′ 42.04°TE 14.84 86 23° 24′ 0.45°TN 87° 07′ 54.08°TE -8.37 149 23° 24′ 0.57°N 87° 07′ 42.04°TE 8.1.4 87 23° 24′ 0.57°N 87° 07′ 54.08°TE -31.43 150 23° 24′ 0.57°N 87° 07′ 44.69°TE 148 88 23° 24′ 0.56°TN 87° 07′ 59.68°TE -13.1.41 152 23° 24′ 24.09°N 87° 04′ 46.8°TE 15.84 90 23° 24′ 0.56°TN 87° 08° 04.78°TE 5.942 153 23° 24′ 0.93°TN 87° 07′ 36.01°TE -12.34 91 23° 24′ 0.56°TN 87° 08° 04.47°TE 38.03 155 23° 24′ 0.532°TN 87° 07′ 44.04°TE -23.39 92 23° 24′ 0.564°TN 87° 08° 0.47°TE 2.88 156 23° 24′ 0.532°TN 87° 07′ 44.04°TE -23.39 94 23° 24′ 0.532°TN 87° 07′ 56.8°TE -18.09 158 23° 24′ 0.532°TN 87° 07′ 44.04°TE -23.9 95 23° 24′ 0.532°TN 87° 07′ 56.8°TE -18.09 158 23° 24′ 0.532°TN 87° 07′ 44.09°TE -27.5 96 23° 24′ 0.532°TN 87° 07′ 56.8°TE -19.85 159 23° 24′ 0.532°TN 87° 07′ 44.08°TE <	-						
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8923° 24° 04.5°N 87° 07° 59.8°°E-13.1415223° 24° 44.69°N 87° 07° 47.68°°E15.849023° 24° 04.69°N 87° 08° 04.69°E32.2615323° 24° 08.36°N 87° 07° 46.85°E8.479123° 24° 04.69°N 87° 08° 04.69°E32.2615423° 24° 07.28°N 87° 07° 48.69°E-12.349323° 24° 06.51°N 87° 08° 0.24°E2.8915623° 24° 05.22°N 87° 07° 44.14°E-23.399423° 24° 06.51°N 87° 08° 0.61°E2.0415723° 24° 05.32°N 87° 07° 44.14°E-23.399523° 24° 06.23°N 87° 07° 55.52°E118.0915823° 24° 05.32°N 87° 07° 44.14°E-23.399623° 24° 06.35°N 87° 08° 0.04°E0.5516023° 24° 03.68°N 87° 07° 45.88°E-22.479723° 24° 06.35°N 87° 08° 0.04°E0.5516023° 24° 0.34°N 87° 07° 45.88°E-27.59723° 24° 08.30°N 87° 08° 0.04°E0.5516023° 24° 0.35°N 87° 07° 45.86°E-28.69823° 24° 0.35°N 87° 07° 50.8°°E-115.0316323° 24° 10.39°° 07° 45.87°E128.6610023° 24° 10.39°N 87° 07° 56.98°E-12.3416423° 24° 10.63°N 87° 07° 45.88°E118.9810223° 24° 10.52°N 87° 07° 56.98°E-12.3416523° 24° 0.657°N 87° 07° 45.88°E128.0910323° 24° 10.59°N 87° 07° 56.98°E23.5516723° 24° 1.937°N 87° 07° 44.84°E132.3110623° 24° 10.59°N 87° 07° 56.98°E23.5816723° 24° 1.937°N 87° 07° 35.88°E148.9110323° 24° 10.59°N 87° 07° 56.98°E23.551	87	23° 24' 04.25''N 87° 07' 54.08''E	-31.43	150	23° 24' 08.34''N 87° 07' 44.69''E	1.48	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	88	23° 24' 05.69''N 87° 07' 57.36''E	-17.26	151	23° 24' 7.37''N 87° 07' 43.04''E	-19	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	89	23° 24' 09.65''N 87° 07' 59.68''E	-13.14	152	23° 24' 24.69''N 87° 07' 47.68''E	15.84	
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$\begin{array}{c} 94 & 23^{\circ} 24' 05.64^{\circ} N 87^{\circ} 08' 05.61^{\circ} E & 2.04 & 157 & 23^{\circ} 24' 05.32^{\circ} N 87^{\circ} 07' 44.14^{\circ} E & -39.37 \\ 95 & 23^{\circ} 24' 05.23^{\circ} N 87^{\circ} 07' 85.52^{\circ} E & -18.09 & 158 & 23^{\circ} 24' 05.32^{\circ} N 87^{\circ} 07' 46.98^{\circ} E & -22.47 \\ 96 & 23^{\circ} 24' 05.63^{\circ} N 87^{\circ} 07' 85.89^{\circ} E & -19.85 & 159 & 23^{\circ} 24' 03.68^{\circ} N 87^{\circ} 07' 35.88^{\circ} E & -27.5 \\ 97 & 23^{\circ} 24' 05.32^{\circ} N 87^{\circ} 07' 85.04^{\circ} E & 0.55 & 160 & 23^{\circ} 24' 03.68^{\circ} N 87^{\circ} 07' 35.88^{\circ} E & -27.5 \\ 99 & 23^{\circ} 24' 3.37^{\circ} N 87^{\circ} 07' 03.69^{\circ} E & 29.365 & 161 & 23^{\circ} 24' 02.34^{\circ} N 87^{\circ} 07' 45.57^{\circ} E & -26.6 \\ 99 & 23^{\circ} 24' 08.24^{\circ} N 87^{\circ} 08' 05.92^{\circ} E & 42.43 & 162 & 23^{\circ} 24' 03.68^{\circ} N 87^{\circ} 07' 43.57^{\circ} E & -26.6 \\ 100 & 23^{\circ} 24' 08.24^{\circ} N 87^{\circ} 00' 55.98^{\circ} E & -15.03 & 163 & 23^{\circ} 24' 17.64^{\circ} N 87^{\circ} 07' 43.57^{\circ} E & 199.29 \\ 101 & 23^{\circ} 24' 09.52^{\circ} N 87^{\circ} 07' 50.4^{\circ} E & -15.03 & 163 & 23^{\circ} 24' 15.7^{\circ} N 87^{\circ} 07' 43.58^{\circ} E & 118.98 \\ 102 & 23^{\circ} 24' 10.39^{\circ} N 87^{\circ} 07' 50.4^{\circ} E & 21.34 & 165 & 23^{\circ} 24' 18.57^{\circ} N 87^{\circ} 07' 44.28^{\circ} E & 118.98 \\ 103 & 23^{\circ} 24' 11.60^{\circ} N 87^{\circ} 07' 56.98^{\circ} E & 25.58 & 167 & 23^{\circ} 24' 20.68^{\circ} N 87^{\circ} 07' 44.28^{\circ} E & 118.91 \\ 104 & 23^{\circ} 24' 10.60^{\circ} N 87^{\circ} 08' 05.69^{\circ} E & 33.29 & 168 & 23^{\circ} 24' 20.67^{\circ} N 87^{\circ} 07' 44.84^{\circ} E & 132.31 \\ 106 & 23^{\circ} 24' 12.09^{\circ} N 87^{\circ} 08' 05.69^{\circ} E & 33.29 & 168 & 23^{\circ} 24' 20.67^{\circ} N 87^{\circ} 07' 32.68^{\circ} E & 78 \\ 107 & 23^{\circ} 24' 12.09^{\circ} N 87^{\circ} 08' 05.78^{\circ} E & 21.83 & 170 & 23^{\circ} 24' 19.37^{\circ} N 87^{\circ} 07' 31.48^{\circ} E & 29.11 \\ 104 & 23^{\circ} 24' 12.09^{\circ} N 87^{\circ} 00' 5.78^{\circ} E & 21.83 & 170 & 23^{\circ} 24' 19.37^{\circ} N 87^{\circ} 07' 32.68^{\circ} E & 58.55 \\ 108 & 23^{\circ} 24' 12.09^{\circ} N 87^{\circ} 07' 72.29^{\circ} E & 146.93 & 236 & 23^{\circ} 24' 41.35^{\circ} N 87^{\circ} 07' 32.68^{\circ} E & 165.83 \\ 173 & 23^{\circ} 24' 2.68^{\circ} N 87^{\circ} 07' 38.58^{\circ} E & 166.15 & 238 & 23^{\circ} 24' 41.35^{\circ} N 87^{\circ} 07' 35.58^{\circ} E & 165.83 \\ 173 & 23^{\circ} 24' 2.68^{\circ} N 87^{\circ} 07' 38.58^{\circ} E & 166$	92	23° 24' 06.98''N 87° 08' 04.78''E	38.03	155	23° 24'09.36''N 87° 07' 48.69''E	-12.34	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	93	23° 24' 06.51''N 87° 08' 0.24''E	-2.89	156	23° 24' 04.32''N 87° 07' 44.04''E	-23.39	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	94	23° 24' 05.64''N 87° 08' 05.61''E	2.04	157	23° 24' 05.32''N 87° 07' 44.14''E	-39.37	
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97 $23^{\circ} 24^{\circ} 06.35^{\circ\circ} N 87^{\circ} 08^{\circ} 0.04^{\circ\circ} E$ 0.55 160 $23^{\circ} 24^{\circ} 0.4.24^{\circ\circ} N 87^{\circ} 07^{\circ} 49.58^{\circ\circ} E$ -28.6 98 $23^{\circ} 24^{\circ} 0.24^{\circ\circ} N 87^{\circ} 07^{\circ} 0.59^{\circ\circ} E$ 29.365 161 $23^{\circ} 24^{\circ} 0.2.34^{\circ\circ} N 87^{\circ} 07^{\circ} 40.57^{\circ\circ} E$ -26.6 99 $23^{\circ} 24^{\circ} 0.82^{\circ} W 87^{\circ} 07^{\circ} 0.592^{\circ\circ} E$ 42.43 162 $23^{\circ} 24^{\circ} 0.2.34^{\circ\circ} N 87^{\circ} 07^{\circ} 40.47^{\circ\circ} E$ 19.29 101 $23^{\circ} 24^{\circ} 0.830^{\circ\circ} N 87^{\circ} 07^{\circ} 56.98^{\circ\circ} E$ 12 164 $23^{\circ} 24^{\circ} 1.857^{\circ\circ} N 87^{\circ} 07^{\circ} 42.85^{\circ\circ} E$ 118.98 102 $23^{\circ} 24^{\circ} 10.39^{\circ\circ} N 87^{\circ} 07^{\circ} 54.04^{\circ\circ} E$ 12.34 165 $23^{\circ} 24^{\circ} 16.37^{\circ\circ} N 87^{\circ} 07^{\circ} 42.85^{\circ\circ} E$ 118.98 103 $23^{\circ} 24^{\circ} 11.36^{\circ\circ} N 87^{\circ} 07^{\circ} 54.04^{\circ\circ} E$ 19.99 166 $23^{\circ} 24^{\circ} 19.37^{\circ\circ} N 87^{\circ} 07^{\circ} 46.87^{\circ\circ} E$ 118.91 104 $23^{\circ} 24^{\circ} 11.66^{\circ\circ} N 87^{\circ} 07^{\circ} 56.99^{\circ} E$ 33.29 168 $23^{\circ} 24^{\circ} 19.37^{\circ\circ} N 87^{\circ} 07^{\circ} 49.84^{\circ\circ} E$ 118.91 105 $23^{\circ} 24^{\circ} 12.06^{\circ\circ} N 87^{\circ} 08^{\circ} 05.63^{\circ\circ} E$ 9.2 168 $23^{\circ} 24^{\circ} 19.37^{\circ\circ} N 87^{\circ} 07^{\circ} 32.08^{\circ\circ} E$ 78.8 107 $23^{\circ} 24^{\circ} 12.09^{\circ\circ} N 87^{\circ} 08^{\circ} 05.63^{\circ\circ} E$ 9.2 168 $23^{\circ} 24^{\circ} 11.33^{\circ\circ} N 87^{\circ} 07^{\circ} 32.08^{\circ\circ} E$ 88.55 108 $23^{\circ} 24^{\circ} 12.09^{\circ\circ} N 87^{\circ} 08^{\circ} 05.38^{\circ} E$ $12.33^{\circ} 148^{\circ} 07^{\circ} 39.58^{\circ} E$ $78.5^{\circ} 18.58^{\circ} 07^{\circ} 39.58^{\circ} E$ 165.83 107 $23^{\circ} 24^{\circ} 12.68^{\circ\circ} N 87^{\circ} 07^{\circ} 39.26^{\circ} E$ <							
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$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	98	23° 24' 7.37''N 87° 07' 03.69''E	29.365	161	23° 24' 02.34''N 87° 07' 46.57''E	-26.6	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	99	23° 24' 08.24''N 87° 08' 05.92''E	42.43	162	23° 24' 09.35''N 87° 07' 48.04''E	-3.51	
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$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	103	23° 24' 11.96''N 87° 07' 54.04''E	19.99	166	23° 24' 20.68''N 87° 07' 44.29''E	124.01	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	104	23° 24' 11.60''N 87° 07' 56.89''E	25.58	167	23° 24' 19.37''N 87° 07' 47.68''E	118.91	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	105	23° 24' 05 69''N 87° 08' 05 69''E	33.29	168	23° 24' 20 67''N 87° 07' 49 84''E	132 31	
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17423° 24' 24.89''N 87° 07' 48.67''E137.0223723° 24' 41.35''N 87° 07' 35.97''E176.1517523° 24' 24.58''N 87° 07' 38.59''E166.1523823° 24' 40.29''N 87° 07' 33.68''E176.0117623° 24' 26.52''N 87° 07' 39.46''E167.3523923° 24' 39.65''N 87° 07' 32.68''E17317723° 24' 26.87''N 87° 07' 46.27''E148.4924023° 24' 38.26''N 87° 07' 30.54''E17017823° 24' 26.34''N 87° 07' 45.25''E146.5524123° 24' 38.26''N 87° 07' 30.54''E17117923° 24' 27.26''N 87° 07' 51.04''E150.2224223° 24' 37.59''N 87° 07' 25.92''E17118023° 24' 30.28''N 87° 07' 42.68''E147.7324323° 25' 08.25''N 87° 08' 11.26''E116.918123° 24' 30.28''N 87° 07' 41.58''E151.4924423° 24' 51.26''N 87° 08' 51.68''E100.0518223° 24' 30.28''N 87° 07' 39.74''E148.5324523° 24' 56.37''N 87° 08' 51.68''E106.8518323° 24' 31.25''N 87° 07' 35.28''E127.9324723° 24' 58.26''N 87° 08' 16.29''E110.7118423° 24' 26.58''N 87° 07' 35.28''E127.9324723° 24' 59.36''N 87° 08' 16.29''E112.8718523° 24' 26.58''N 87° 07' 35.28''E167.124823° 24' 59.25''N 87° 08' 18.26''E115.5718723° 24' 26.58''N 87° 07' 35.52''E167.124923° 24' 55.29''N 87° 08' 18.26''E115.5718723° 24' 26.58''N 87° 07' 35.52''E167.125123° 24' 55.29''N 87° 08' 13.27''E111.38<	173	23° 24' 23.87''N 87° 07' 72.29''E	164.93	236	23° 24' 41.35''N 87° 07' 39.26''E	140	
17523° 24' 24.58''N 87° 07' 38.59''E166.1523823° 24' 40.29''N 87° 07' 33.68''E176.0117623° 24' 26.52''N 87° 07' 39.46''E167.3523923° 24' 39.65''N 87° 07' 32.68''E17317723° 24' 26.87''N 87° 07' 46.27''E148.4924023° 24' 38.26''N 87° 07' 30.54''E17017823° 24' 26.34''N 87° 07' 45.25''E146.5524123° 24' 38.29''N 87° 07' 25.92''E17117923° 24' 27.26''N 87° 07' 51.04''E150.2224223° 24' 37.59''N 87° 07' 25.92''E17118023° 24' 30.28''N 87° 07' 42.68''E147.7324323° 25' 08.25''N 87° 08' 11.26''E116.918123° 24' 30.28''N 87° 07' 41.58''E151.4924423° 24' 51.26''N 87° 08' 51.68''E110.0518223° 24' 30.58''N 87° 07' 39.74''E148.5324523° 24' 56.37''N 87° 08' 51.68''E110.7118423° 24' 31.25''N 87° 07' 35.28''E127.9324723° 24' 58.26''N 87° 08' 17.36''E110.7118423° 24' 26.58''N 87° 07' 33.09''E167.124823° 24' 59.25''N 87° 08' 18.26''E112.8718523° 24' 26.58''N 87° 07' 33.09''E165.125023° 24' 59.25''N 87° 08' 18.26''E115.5718723° 24' 26.37''N 87° 07' 35.52''E167.124923° 24' 55.58''N 87° 08' 13.27''E111.3818823° 24' 26.58''N 87° 07' 35.52''E167.125023° 24' 55.28''N 87° 08' 13.27''E111.3118923° 24' 25.58''N 87° 07' 35.52''E167.125123° 24' 55.28''N 87° 08' 15.29''E110.31 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
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17923° 24' 27.26''N 87° 07' 51.04''E150.2224223° 24' 37.59''N 87° 07' 25.92''E17118023° 24' 29.68''N 87° 07' 42.68''E147.7324323° 25' 08.25''N 87° 08' 11.26''E116.918123° 24' 30.28''N 87° 07' 41.58''E151.4924423° 24' 51.26''N 87° 08' 51.68''E110.0518223° 24' 30.58''N 87° 07' 39.74''E148.5324523° 24' 56.37''N 87° 08' 51.68''E110.0518223° 24' 31.25''N 87° 07' 37.57''E122.4524623° 24' 56.37''N 87° 08' 17.36''E110.7118423° 24' 31.25''N 87° 07' 35.28''E127.9324723° 24' 58.26''N 87° 08' 16.29''E112.8718523° 24' 26.58''N 87° 07' 33.09''E167.124823° 24' 59.36''N 87° 08' 16.29''E114.9118623° 24' 26.58''N 87° 07' 38.24''E166.124923° 24' 59.25''N 87° 08' 18.26''E115.5718723° 24' 26.37''N 87° 07' 35.52''E167.125023° 24' 55.29''N 87° 08' 13.27''E111.3818823° 24' 25.58''N 87° 07' 35.52''E167.125123° 24' 55.28''N 87° 08' 13.27''E111.3818823° 24' 25.58''N 87° 07' 31.58''E100.2125223° 24' 55.28''N 87° 08' 15.29''E110.5219023° 24' 23.52''N 87° 07' 27.58''E81.325323° 24' 54.29''N 87° 08' 19.29''E112.6419123° 24' 22.44''N 87° 07' 33.57''E101.7825523° 24' 53.48''N 87° 08' 20.95''E112.4819223° 24' 22.24''N 87° 07' 33.57''E101.7825523° 24' 53.28''N 87° 08' 20.65''E108.75	178	23° 24' 26.34''N 87° 07' 45.25''E	146.55	241	23° 24' 38.29''N 87° 07' 27.59''E	171	
180 23° 24' 29.68''N 87° 07' 42.68''E 147.73 243 23° 25' 08.25''N 87° 08' 11.26''E 116.9 181 23° 24' 30.28''N 87° 07' 41.58''E 151.49 244 23° 24' 51.26''N 87° 08' 51.68''E 110.05 182 23° 24' 30.58''N 87° 07' 39.74''E 148.53 245 23° 24' 56.37''N 87° 08' 51.68''E 110.05 183 23° 24' 32.78''N 87° 07' 37.57''E 122.45 246 23° 24' 56.37''N 87° 08' 17.36''E 110.71 184 23° 24' 31.25''N 87° 07' 35.28''E 127.93 247 23° 24' 58.26''N 87° 08' 16.29''E 112.87 185 23° 24' 26.58''N 87° 07' 33.09''E 167.1 248 23° 24' 59.36''N 87° 08' 10.29''E 114.91 186 23° 24' 26.58''N 87° 07' 33.04''E 166.1 249 23° 24' 55.29''N 87° 08' 13.27''E 111.38 187 23° 24' 26.37''N 87° 07' 33.04''E 165.1 250 23° 24' 55.29''N 87° 08' 13.27''E 111.38 188 23° 24' 25.58''N 87° 07' 31.58''E 100.21 252 23° 24' 55.28''N 87° 08' 15.29''E 110.31 189 23° 24' 23.52''N 87° 07' 27.58''E 81.3 253' 23' 24' 54.86''N 87° 08' 17.24''E 110.52 190 23° 24' 23.58''N 87° 07' 2	-				23° 24' 37.59''N 87° 07' 25.92''E	171	
181 23° 24' 30.28''N 87° 07' 41.58''E 151.49 244 23° 24' 51.26''N 87° 08' 51.68''E 110.05 182 23° 24' 30.58''N 87° 07' 39.74''E 148.53 245 23° 24' 56.37''N 87° 08' 51.68''E 106.85 183 23° 24' 32.78''N 87° 07' 37.57''E 122.45 246 23° 24' 57.68''N 87° 08' 17.36''E 110.71 184 23° 24' 31.25''N 87° 07' 35.28''E 127.93 247 23° 24' 58.26''N 87° 08' 16.29''E 112.87 185 23° 24' 26.58''N 87° 07' 33.09''E 167.1 248 23° 24' 59.36''N 87° 08' 16.29''E 114.91 186 23° 24' 26.58''N 87° 07' 38.24''E 166.1 249 23° 24' 59.25''N 87° 08' 18.26''E 115.57 187 23° 24' 26.37''N 87° 07' 33.04''E 165.1 250 23° 24' 55.29''N 87° 08' 13.27''E 111.38 188 23° 24' 25.58''N 87° 07' 35.52''E 167.1 251 23° 24' 55.28''N 87° 08' 13.27''E 110.31 189 23° 24' 26.37''N 87° 07' 31.58''E 100.21 252 23° 24' 55.28''N 87° 08' 17.24''E 110.52 190 23° 24' 23.52''N 87° 07' 27.58''E 81.3 253 23° 24' 54.48''N 87° 08' 19.29''E 112.64 191 23° 24' 23.5	-						
182 23° 24' 30.58''N 87° 07' 39.74''E 148.53 245 23° 24' 56.37''N 87° 08' 51.68''E 106.85 183 23° 24' 32.78''N 87° 07' 37.57''E 122.45 246 23° 24' 57.68''N 87° 08' 17.36''E 110.71 184 23° 24' 31.25''N 87° 07' 35.28''E 127.93 247 23° 24' 58.26''N 87° 08' 16.29''E 112.87 185 23° 24' 26.58''N 87° 07' 33.09''E 167.1 248 23° 24' 59.36''N 87° 08' 16.29''E 114.91 186 23° 24' 26.58''N 87° 07' 38.24''E 166.1 249 23° 24' 59.36''N 87° 08' 18.26''E 115.57 187 23° 24' 26.37''N 87° 07' 33.04''E 165.1 250 23° 24' 55.29''N 87° 08' 13.27''E 111.38 188 23° 24' 25.58''N 87° 07' 35.52''E 167.1 251 23° 24' 55.28''N 87° 08' 15.29''E 110.31 189 23° 24' 25.58''N 87° 07' 31.58''E 100.21 252 23° 24' 54.86''N 87° 08' 17.24''E 110.52 190 23° 24' 23.52''N 87° 07' 27.58''E 81.3 253 23° 24' 53.48''N 87° 08' 19.29''E 112.64 191 23° 24' 22.24''N 87° 07' 33.57''E 101.78 255 23° 24' 53.48''N 87° 08' 20.65''E 108.75	-						
183 23° 24' 32.78''N 87° 07' 37.57''E 122.45 246 23° 24' 57.68''N 87° 08' 17.36''E 110.71 184 23° 24' 31.25''N 87° 07' 35.28''E 127.93 247 23° 24' 58.26''N 87° 08' 16.29''E 112.87 185 23° 24' 28.57''N 87° 07' 33.09''E 167.1 248 23° 24' 59.36''N 87° 08' 16.29''E 112.87 186 23° 24' 26.58''N 87° 07' 33.09''E 167.1 248 23° 24' 59.36''N 87° 08' 20.29''E 114.91 186 23° 24' 26.58''N 87° 07' 38.24''E 166.1 249 23° 24' 59.25''N 87° 08' 18.26''E 115.57 187 23° 24' 26.37''N 87° 07' 33.04''E 165.1 250 23° 24' 55.29''N 87° 08' 13.27''E 111.38 188 23° 24' 25.58''N 87° 07' 35.52''E 167.1 251 23° 24' 55.28''N 87° 08' 15.29''E 110.31 189 23° 24' 24.09''N 87° 07' 31.58''E 100.21 252 23° 24' 54.86''N 87° 08' 17.24''E 110.52 190 23° 24' 23.52''N 87° 07' 27.58''E 81.3 253 23° 24' 53.48''N 87° 08' 19.29''E 112.64 191 23° 24' 23.58''N 87° 07' 29.04''E 80.75 254 23° 24' 53.48''N 87° 08' 20.95''E 112.48 192 23° 24' 22.24'	-	1 23 24 30.28 IN 87 07 41.38 2E	131.49		25 24 51.20 N 8/° 08 51.68 E		
184 23° 24' 31.25''N 87° 07' 35.28''E 127.93 247 23° 24' 58.26''N 87° 08' 16.29''E 112.87 185 23° 24' 28.57''N 87° 07' 33.09''E 167.1 248 23° 24' 59.36''N 87° 08' 20.29''E 114.91 186 23° 24' 26.58''N 87° 07' 38.24''E 166.1 249 23° 24' 59.36''N 87° 08' 18.26''E 115.57 187 23° 24' 26.37''N 87° 07' 33.04''E 165.1 250 23° 24' 55.29''N 87° 08' 13.27''E 111.38 188 23° 24' 25.58''N 87° 07' 35.52''E 167.1 251 23° 24' 55.28''N 87° 08' 13.27''E 111.38 189 23° 24' 26.37''N 87° 07' 31.58''E 100.21 252 23° 24' 55.28''N 87° 08' 17.24''E 110.52 190 23° 24' 23.52''N 87° 07' 27.58''E 81.3 253 23° 24' 54.29''N 87° 08' 19.29''E 112.64 191 23° 24' 23.58''N 87° 07' 29.04''E 80.75 254 23° 24' 53.48''N 87° 08' 20.95''E 112.48 192 23° 24' 22.24''N 87° 07' 33.57''E 101.78 255 23° 24' 57.32''N 87° 08' 20.65''E 108.75	1.00		1.10 55				
185 23° 24' 28.57''N 87° 07' 33.09''E 167.1 248 23° 24' 59.36''N 87° 08' 20.29''E 114.91 186 23° 24' 26.58''N 87° 07' 38.24''E 166.1 249 23° 24' 59.25''N 87° 08' 18.26''E 115.57 187 23° 24' 26.37''N 87° 07' 33.04''E 165.1 250 23° 24' 55.29''N 87° 08' 13.27''E 111.38 188 23° 24' 25.58''N 87° 07' 35.52''E 167.1 251 23° 24' 55.28''N 87° 08' 13.27''E 110.31 189 23° 24' 24.09''N 87° 07' 31.58''E 100.21 252 23° 24' 54.86''N 87° 08' 17.24''E 110.52 190 23° 24' 23.52''N 87° 07' 27.58''E 81.3 253 23° 24' 54.29''N 87° 08' 19.29''E 112.64 191 23° 24' 22.4''N 87° 07' 33.57''E 101.78 255 23° 24' 57.32''N 87° 08' 20.95''E 112.48 192 23° 24' 22.24''N 87° 07' 33.57''E 101.78 255 23° 24' 57.32''N 87° 08' 20.65''E 108.75''E	-	23° 24' 30.58''N 87° 07' 39.74''E					
185 23° 24' 28.57''N 87° 07' 33.09''E 167.1 248 23° 24' 59.36''N 87° 08' 20.29''E 114.91 186 23° 24' 26.58''N 87° 07' 38.24''E 166.1 249 23° 24' 59.25''N 87° 08' 18.26''E 115.57 187 23° 24' 26.37''N 87° 07' 33.04''E 165.1 250 23° 24' 55.29''N 87° 08' 13.27''E 111.38 188 23° 24' 25.58''N 87° 07' 35.52''E 167.1 251 23° 24' 55.28''N 87° 08' 13.27''E 110.31 189 23° 24' 24.09''N 87° 07' 31.58''E 100.21 252 23° 24' 54.86''N 87° 08' 17.24''E 110.52 190 23° 24' 23.52''N 87° 07' 27.58''E 81.3 253 23° 24' 54.29''N 87° 08' 19.29''E 112.64 191 23° 24' 22.4''N 87° 07' 33.57''E 101.78 255 23° 24' 57.32''N 87° 08' 20.95''E 112.48 192 23° 24' 22.24''N 87° 07' 33.57''E 101.78 255 23° 24' 57.32''N 87° 08' 20.65''E 108.75''E	-	23° 24' 30.58''N 87° 07' 39.74''E					
186 23° 24' 26.58''N 87° 07' 38.24''E 166.1 249 23° 24' 59.25''N 87° 08' 18.26''E 115.57 187 23° 24' 26.37''N 87° 07' 33.04''E 165.1 250 23° 24' 55.29''N 87° 08' 13.27''E 111.38 188 23° 24' 25.58''N 87° 07' 35.52''E 167.1 251 23° 24' 55.28''N 87° 08' 15.29''E 110.31 189 23° 24' 24.09''N 87° 07' 31.58''E 100.21 252 23° 24' 54.86''N 87° 08' 17.24''E 110.52 190 23° 24' 23.52''N 87° 07' 27.58''E 81.3 253 23° 24' 54.29''N 87° 08' 19.29''E 112.64 191 23° 24' 22.24''N 87° 07' 33.57''E 101.78 255 23° 24' 57.32''N 87° 08' 20.95''E 112.48 192 23° 24' 22.24''N 87° 07' 33.57''E 101.78 255 23° 24' 57.32''N 87° 08' 20.65''E 108.75	183	23° 24' 30.58''N 87° 07' 39.74''E 23° 24' 32.78''N 87° 07' 37.57''E	122.45	246	23° 24' 57.68''N 87° 08' 17.36''E	110.71	
187 23° 24' 26.37''N 87° 07' 33.04''E 165.1 250 23° 24' 55.29''N 87° 08' 13.27''E 111.38 188 23° 24' 25.58''N 87° 07' 35.52''E 167.1 251 23° 24' 55.28''N 87° 08' 15.29''E 110.31 189 23° 24' 24.09''N 87° 07' 31.58''E 100.21 252 23° 24' 54.86''N 87° 08' 17.24''E 110.52 190 23° 24' 23.52''N 87° 07' 27.58''E 81.3 253 23° 24' 54.29''N 87° 08' 19.29''E 112.64 191 23° 24' 23.58''N 87° 07' 29.04''E 80.75 254 23° 24' 53.48''N 87° 08' 20.95''E 112.48 192 23° 24' 22.24''N 87° 07' 33.57''E 101.78 255 23° 24' 57.32''N 87° 08' 20.65''E 108.75	183 184	23° 24' 30.58''N 87° 07' 39.74''E 23° 24' 32.78''N 87° 07' 37.57''E 23° 24' 31.25''N 87° 07' 35.28''E	122.45 127.93	246 247	23° 24' 57.68''N 87° 08' 17.36''E 23° 24' 58.26''N 87° 08' 16.29''E	110.71 112.87	
188 23° 24' 25.58''N 87° 07' 35.52''E 167.1 251 23° 24' 55.28''N 87° 08' 15.29''E 110.31 189 23° 24' 24.09''N 87° 07' 31.58''E 100.21 252 23° 24' 54.86''N 87° 08' 17.24''E 110.52 190 23° 24' 23.52''N 87° 07' 27.58''E 81.3 253 23° 24' 54.29''N 87° 08' 19.29''E 112.64 191 23° 24' 23.58''N 87° 07' 29.04''E 80.75 254 23° 24' 53.48''N 87° 08' 20.95''E 112.48 192 23° 24' 22.24''N 87° 07' 33.57''E 101.78 255 23° 24' 57.32''N 87° 08' 20.65''E 108.75	183 184 185	23° 24' 30.58''N 87° 07' 39.74''E 23° 24' 32.78''N 87° 07' 37.57''E 23° 24' 31.25''N 87° 07' 35.28''E 23° 24' 28.57''N 87° 07' 33.09''E	122.45 127.93 167.1	246 247 248	23° 24' 57.68''N 87° 08' 17.36''E 23° 24' 58.26''N 87° 08' 16.29''E 23° 24' 59.36''N 87° 08' 20.29''E	110.71 112.87 114.91	
189 23° 24' 24.09''N 87° 07' 31.58''E 100.21 252 23° 24' 54.86''N 87° 08' 17.24''E 110.52 190 23° 24' 23.52''N 87° 07' 27.58''E 81.3 253 23° 24' 54.29''N 87° 08' 19.29''E 112.64 191 23° 24' 23.58''N 87° 07' 29.04''E 80.75 254 23° 24' 53.48''N 87° 08' 20.95''E 112.48 192 23° 24' 22.24''N 87° 07' 33.57''E 101.78 255 23° 24' 57.32''N 87° 08' 20.65''E 108.75	183 184 185 186	23° 24' 30.58''N 87° 07' 39.74''E 23° 24' 32.78''N 87° 07' 37.57''E 23° 24' 31.25''N 87° 07' 35.28''E 23° 24' 28.57''N 87° 07' 33.09''E 23° 24' 26.58''N 87° 07' 38.24''E	122.45 127.93 167.1 166.1	246 247 248 249	23° 24' 57.68''N 87° 08' 17.36''E 23° 24' 58.26''N 87° 08' 16.29''E 23° 24' 59.36''N 87° 08' 20.29''E 23° 24' 59.25''N 87° 08' 18.26''E	110.71 112.87 114.91 115.57	
190 23° 24' 23.52''N 87° 07' 27.58''E 81.3 253 23° 24' 54.29''N 87° 08' 19.29''E 112.64 191 23° 24' 23.58''N 87° 07' 29.04''E 80.75 254 23° 24' 53.48''N 87° 08' 20.95''E 112.48 192 23° 24' 22.24''N 87° 07' 33.57''E 101.78 255 23° 24' 57.32''N 87° 08' 20.65''E 108.75	183 184 185 186 187	23° 24' 30.58''N 87° 07' 39.74''E 23° 24' 32.78''N 87° 07' 37.57''E 23° 24' 31.25''N 87° 07' 35.28''E 23° 24' 28.57''N 87° 07' 33.09''E 23° 24' 26.58''N 87° 07' 38.24''E 23° 24' 26.37''N 87° 07' 33.04''E	122.45 127.93 167.1 166.1 165.1	246 247 248 249 250	23° 24' 57.68''N 87° 08' 17.36''E 23° 24' 58.26''N 87° 08' 16.29''E 23° 24' 59.36''N 87° 08' 20.29''E 23° 24' 59.25''N 87° 08' 18.26''E 23° 24' 55.29''N 87° 08' 13.27''E	110.71 112.87 114.91 115.57 111.38	
190 23° 24' 23.52''N 87° 07' 27.58''E 81.3 253 23° 24' 54.29''N 87° 08' 19.29''E 112.64 191 23° 24' 23.58''N 87° 07' 29.04''E 80.75 254 23° 24' 53.48''N 87° 08' 20.95''E 112.48 192 23° 24' 22.24''N 87° 07' 33.57''E 101.78 255 23° 24' 57.32''N 87° 08' 20.65''E 108.75	183 184 185 186 187	23° 24' 30.58''N 87° 07' 39.74''E 23° 24' 32.78''N 87° 07' 37.57''E 23° 24' 31.25''N 87° 07' 35.28''E 23° 24' 28.57''N 87° 07' 33.09''E 23° 24' 26.58''N 87° 07' 38.24''E 23° 24' 26.37''N 87° 07' 33.04''E	122.45 127.93 167.1 166.1 165.1	246 247 248 249 250	23° 24' 57.68''N 87° 08' 17.36''E 23° 24' 58.26''N 87° 08' 16.29''E 23° 24' 59.36''N 87° 08' 20.29''E 23° 24' 59.25''N 87° 08' 18.26''E 23° 24' 55.29''N 87° 08' 13.27''E	110.71 112.87 114.91 115.57 111.38	
191 23° 24' 23.58''N 87° 07' 29.04''E 80.75 254 23° 24' 53.48''N 87° 08' 20.95''E 112.48 192 23° 24' 22.24''N 87° 07' 33.57''E 101.78 255 23° 24' 57.32''N 87° 08' 20.65''E 108.75	183 184 185 186 187 188	23° 24' 30.58''N 87° 07' 39.74''E 23° 24' 32.78''N 87° 07' 37.57''E 23° 24' 31.25''N 87° 07' 35.28''E 23° 24' 28.57''N 87° 07' 33.09''E 23° 24' 26.58''N 87° 07' 38.24''E 23° 24' 26.37''N 87° 07' 33.04''E 23° 24' 25.58''N 87° 07' 35.52''E	122.45 127.93 167.1 166.1 165.1 167.1	246 247 248 249 250 251	23° 24' 57.68''N 87° 08' 17.36''E 23° 24' 58.26''N 87° 08' 16.29''E 23° 24' 59.36''N 87° 08' 20.29''E 23° 24' 59.25''N 87° 08' 18.26''E 23° 24' 55.29''N 87° 08' 13.27''E 23° 24' 55.28''N 87° 08' 15.29''E	110.71 112.87 114.91 115.57 111.38 110.31	
192 23° 24' 22.24''N 87° 07' 33.57''E 101.78 255 23° 24' 57.32''N 87° 08' 20.65''E 108.75	183 184 185 186 187 188 189	23° 24' 30.58''N 87° 07' 39.74''E 23° 24' 32.78''N 87° 07' 37.57''E 23° 24' 31.25''N 87° 07' 35.28''E 23° 24' 28.57''N 87° 07' 33.09''E 23° 24' 26.58''N 87° 07' 38.24''E 23° 24' 26.37''N 87° 07' 33.04''E 23° 24' 25.58''N 87° 07' 35.52''E 23° 24' 24.09''N 87° 07' 31.58''E	122.45 127.93 167.1 166.1 165.1 167.1 100.21	246 247 248 249 250 251 252	23° 24' 57.68''N 87° 08' 17.36''E 23° 24' 58.26''N 87° 08' 16.29''E 23° 24' 59.36''N 87° 08' 20.29''E 23° 24' 59.25''N 87° 08' 18.26''E 23° 24' 55.29''N 87° 08' 13.27''E 23° 24' 55.28''N 87° 08' 15.29''E 23° 24' 54.86''N 87° 08' 17.24''E	110.71 112.87 114.91 115.57 111.38 110.31 110.52	
	183 184 185 186 187 188 189 190	23° 24' 30.58''N 87° 07' 39.74''E 23° 24' 32.78''N 87° 07' 37.57''E 23° 24' 31.25''N 87° 07' 35.28''E 23° 24' 28.57''N 87° 07' 33.09''E 23° 24' 26.58''N 87° 07' 38.24''E 23° 24' 26.37''N 87° 07' 33.04''E 23° 24' 25.58''N 87° 07' 35.52''E 23° 24' 24.09''N 87° 07' 31.58''E 23° 24' 23.52''N 87° 07' 27.58''E	122.45 127.93 167.1 166.1 165.1 167.1 100.21 81.3	246 247 248 249 250 251 252 253	23° 24' 57.68''N 87° 08' 17.36''E 23° 24' 58.26''N 87° 08' 16.29''E 23° 24' 59.36''N 87° 08' 16.29''E 23° 24' 59.25''N 87° 08' 18.26''E 23° 24' 55.29''N 87° 08' 13.27''E 23° 24' 55.28''N 87° 08' 15.29''E 23° 24' 54.86''N 87° 08' 17.24''E 23° 24' 54.29''N 87° 08' 19.29''E	110.71 112.87 114.91 115.57 111.38 110.31 110.52 112.64	
<u>193</u> 23° 24' 28.57''N 87° 07' 28.97''E 130.29 256 23° 24' 58.29''N 87° 08' 23.52''E 117.63	183 184 185 186 187 188 189 190 191	23° 24' 30.58''N 87° 07' 39.74''E 23° 24' 32.78''N 87° 07' 37.57''E 23° 24' 31.25''N 87° 07' 35.28''E 23° 24' 28.57''N 87° 07' 33.09''E 23° 24' 26.58''N 87° 07' 38.24''E 23° 24' 26.37''N 87° 07' 38.24''E 23° 24' 25.58''N 87° 07' 35.52''E 23° 24' 24.09''N 87° 07' 31.58''E 23° 24' 23.52''N 87° 07' 27.58''E 23° 24' 23.58''N 87° 07' 29.04''E	122.45 127.93 167.1 166.1 165.1 167.1 100.21 81.3 80.75	246 247 248 249 250 251 252 253 254	23° 24' 57.68''N 87° 08' 17.36''E 23° 24' 58.26''N 87° 08' 16.29''E 23° 24' 59.36''N 87° 08' 16.29''E 23° 24' 59.25''N 87° 08' 18.26''E 23° 24' 55.29''N 87° 08' 13.27''E 23° 24' 55.28''N 87° 08' 15.29''E 23° 24' 54.86''N 87° 08' 17.24''E 23° 24' 54.86''N 87° 08' 19.29''E 23° 24' 53.48''N 87° 08' 20.95''E	110.71 112.87 114.91 115.57 111.38 110.31 110.52 112.64 112.48	
	183 184 185 186 187 188 189 190 191 192	23° 24' 30.58''N 87° 07' 39.74''E 23° 24' 32.78''N 87° 07' 37.57''E 23° 24' 31.25''N 87° 07' 35.28''E 23° 24' 28.57''N 87° 07' 33.09''E 23° 24' 26.58''N 87° 07' 38.24''E 23° 24' 26.37''N 87° 07' 38.24''E 23° 24' 25.58''N 87° 07' 33.04''E 23° 24' 24.09''N 87° 07' 31.58''E 23° 24' 23.52''N 87° 07' 27.58''E 23° 24' 23.58''N 87° 07' 29.04''E 23° 24' 22.24''N 87° 07' 33.57''E	122.45 127.93 167.1 166.1 165.1 167.1 100.21 81.3 80.75 101.78	246 247 248 250 251 252 253 254 255	23° 24' 57.68''N 87° 08' 17.36''E 23° 24' 58.26''N 87° 08' 16.29''E 23° 24' 59.36''N 87° 08' 16.29''E 23° 24' 59.25''N 87° 08' 18.26''E 23° 24' 55.29''N 87° 08' 13.27''E 23° 24' 55.28''N 87° 08' 15.29''E 23° 24' 54.86''N 87° 08' 17.24''E 23° 24' 54.86''N 87° 08' 19.29''E 23° 24' 54.29''N 87° 08' 20.95''E 23° 24' 57.32''N 87° 08' 20.65''E	110.71 112.87 114.91 115.57 111.38 110.31 110.52 112.64 112.48 108.75	

GIS Based Assessmentand Evaluation of the Environmental Impacts of Opencast Coal Miningin

194	1		r		
	23° 24' 30.96''N 87° 07' 28.69''E	128.2	257	23° 24' 56.98''N 87° 08' 25.68''E	117.69
195	23° 24' 21.85''N 87° 07' 25.36''E	96	258	23° 24' 55.29''N 87° 08' 26.54''E	107.57
196	23° 24' 22.67''N 87° 07' 25.94''E	37.25	259	23° 24' 53.26''N 87° 08' 25.68''E	114.01
197	23° 24' 18.25''N 87° 07' 28.57''E	29.13	260	23° 24' 53.85''N 87° 08' 23.68''E	108.96
198	23° 24' 17.28''N 87° 07' 26.85''E	55.63	261	23° 24' 52.68''N 87° 08' 26.37''E	114.2
199	23° 24' 16.52''N 87° 07' 25.84''E	84.33	262	23° 24' 53.26''N 87° 08' 22.52''E	113.81
200	23° 24' 17.08''N 87° 07' 23.27''E	98.13	263	23° 24' 53.26''N 87° 08' 30.67''E	104.8
201	23° 24' 15.67''N 87° 07' 22.21''E	150.83	264	23° 24' 53.57''N 87° 08' 30.52''E	107.1
202	23° 24' 13.08''N 87° 07' 23.21''E	158.48	265	23° 24' 53.27''N 87° 08' 30.29''E	101.2
203	23° 24' 17.28''N 87° 07' 20.61''E	158.83	266	23° 24' 53.92''N 87° 08' 35.64''E	98.541
204	23° 24'16.27''N 87° 07' 18.63''E	153.05	267	23° 24' 54.29''N 87° 08' 30.64''E	104.36
205	23° 24' 12.57''N 87° 07' 22.36''E	158.84	268	23° 24' 54.68''N 87° 08' 32.26''E	118.12
206	23° 24' 13.57''N 87° 07' 20.36''E	151.62	269	23° 24' 55.34''N 87° 08' 24.68''E	118.51
207	23° 24' 17.25''N 87° 07' 12.68''E	134.06	270	23° 24' 56.29''N 87° 08' 32.58''E	116.85
208	23° 24' 19.35''N 87° 07' 08.68''E	164.95	271	23° 24' 56.38''N 87° 08' 33.85''E	118.77
209	23° 24' 21.29''N 87° 07' 10.68''E	132.72	272	23° 24' 56.29''N 87° 08' 29.36''E	107.45
210	23° 24' 22.36''N 87° 07' 11.68''E	130.48	273	23° 24' 57.29''N 87° 08' 29.58''E	107.15
211	23° 24' 22.36''N 87° 07' 08.65''E	173.22	274	23° 24' 59.59''N 87° 08' 26.36''E	117.02
212	23° 24' 22.36''N 87° 07' 03.24''E	188.18	275	23° 24' 59.36''N 87° 08' 24.28''E	116.84
213	23° 24' 21.00''N 87° 07' 01.58''E	188.58	276	23° 25' 0.25''N 87° 08' 24.25''E	116.36
214	23° 24' 22.36''N 87° 07' 0.24''E	187.74	277	23° 24' 59.25''N 87° 08' 22.36''E	98.397
215	23° 24' 23.25''N 87° 06' 59.35''E	179.53	278	23° 24' 58.29''N 87° 08' 59.58''E	104.36
216	23° 24' 23.21''N 87° 06' 59.84''E	181.38	279	23° 24' 58.29''N 87° 08' 19.39''E	111.47
217	23° 24' 23.29''N 87° 07' 03.58''E	187.14	280	23° 25' 03.25''N 87° 08' 15.28''E	116.91
217	23° 24' 25.68''N 87° 07' 08.67''E	172.68	281	23° 25' 02.65''N 87° 08' 15.96''E	116.91
219	23° 24' 29.57''N 87° 07' 03.24''E	169.84	282	23° 25' 03.25''N 87° 08' 20.28''E	114.91
220	23° 24' 31.27''N 87° 07' 03.57''E	170.58	283	23° 25' 04.21''N 87° 08' 21.68''E	90.229
221	23° 24' 33.57''N 87° 07' 07.54''E	168.5	284	23° 25' 05.29''N 87° 08' 18.88''E	95.676
					96.144
222	23° 24' 30.56''N 87° 07' 08.21''E	169.19	285	23° 25' 06.39''N 87° 08' 18.68''E	
223	23° 24' 34.28''N 87° 07' 04.58''E	157.78	286	23° 25' 07.59''N 87° 08' 20.52''E	94.349
224	23° 24' 34.28''N 87° 07' 02.47''E	158.49	287	23° 25' 06.37''N 87° 08' 20.28''E	95.364
225	23° 24' 34.58''N 87° 06' 59.38''E	140.12	288	23° 25' 04.29''N 87° 08' 23.62''E	86.357
226	23° 24' 37.28''N 87° 07' 01.59''E	142.21	289	23° 25' 06.25''N 87° 08' 24.51''E	73.57
227	23° 24' 36.28''N 87° 07' 09.24''E	120.11	290	23° 25' 06.39''N 87° 08' 25.28''E	52.83
228	23° 24' 36.24''N 87° 07' 31.58''E	140.6	291	23° 25' 04.25''N 87° 08' 27.58''E	59.11
229	23° 24' 31.57"'N 87° 07' 25.85"'E	105.1	292	23° 25' 03.25''N 87° 08' 27.28''E	81.89
230	23° 24' 35.68''N 87° 07' 28.57''E	145	293	23° 25' 01.55''N 87° 08' 29.25''E	78.54
231	23° 24' 34.29''N 87° 07' 38.68''E	118.28	294	23° 25' 01.25''N 87° 08' 32.28''E	74.57
232	23° 24' 36.57''N 87° 07' 39.26''E	138.29	295	23° 25' 01.58''N 87° 08' 36.40''E	43.82
233	23° 24' 33.59''N 87° 07' 40.69''E	100.22	296	23° 25' 02.68''N 87° 08' 37.21''E	52.92
234	23° 24' 33.68''N 87° 07' 44.29''E	96.31	297	23° 25' 03.65''N 87° 08' 33.28''E	47.87
235	23° 24' 27.59''N 87° 07' 49.25''E	133.16	298	23° 25' 04.26''N 87° 08' 31.95''E	46.86
299	23° 25' 04.62''N 87° 08' 35.28''E	74.169	362	23° 24' 39.64''N 87° 09' 19.64''E	0.4
					94
1 300	23° 25' 05 23''N 87° 08' 32 63''E				94
300	23° 25' 05.23''N 87° 08' 32.63''E	73.935	363	23° 24' 24.67''N 87° 09' 16.59''E	95
301	23° 25' 05.27''N 87° 08' 29.52''E	47.07	364	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E	95 87
				23° 24' 24.67''N 87° 09' 16.59''E	95
301	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E	47.07 75.658	364 365	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E	95 87 96
301 302 303	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 0.21''N 87° 08' 36.22''E	47.07 75.658 61.56	364 365 366	23° 24' 24.67' N 87° 09' 16.59' E 23° 24' 49.67' N 87° 09' 20.42' E 23° 24' 41.38' N 87° 09' 15.69' E 23° 24' 41.68' N 87° 09' 15.94' E	95 87 96 73.17
301 302 303 304	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 0.21''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E	47.07 75.658 61.56 83.94	364 365 366 367	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E 23° 24' 41.38''N 87° 09' 15.69''E 23° 24' 41.68''N 87° 09' 15.94''E 23° 24' 04.68''N 87° 08' 13.67''E	95 87 96 73.17 27.08
301 302 303 304 305	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 0.21''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 39.62''E	47.07 75.658 61.56 83.94 62.46	364 365 366 367 368	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E 23° 24' 41.38''N 87° 09' 15.69''E 23° 24' 41.68''N 87° 09' 15.94''E 23° 24' 04.68''N 87° 08' 13.67''E 23° 24' 05.26''N 87° 08' 13.67''E	95 87 96 73.17 27.08 36.57
301 302 303 304	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 0.21''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E	47.07 75.658 61.56 83.94	364 365 366 367	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E 23° 24' 41.38''N 87° 09' 15.69''E 23° 24' 41.68''N 87° 09' 15.94''E 23° 24' 04.68''N 87° 08' 13.67''E	95 87 96 73.17 27.08
301 302 303 304 305	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 0.21''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 39.62''E	47.07 75.658 61.56 83.94 62.46	364 365 366 367 368	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E 23° 24' 41.38''N 87° 09' 15.69''E 23° 24' 41.68''N 87° 09' 15.94''E 23° 24' 04.68''N 87° 08' 13.67''E 23° 24' 05.26''N 87° 08' 13.67''E	95 87 96 73.17 27.08 36.57
301 302 303 304 305 306 307	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 0.21''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 24.24''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74	364 365 366 367 368 369 370	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E 23° 24' 41.38''N 87° 09' 15.69''E 23° 24' 41.68''N 87° 09' 15.94''E 23° 24' 04.68''N 87° 08' 13.67''E 23° 24' 05.26''N 87° 08' 13.67''E 23° 24' 05.67''N 87° 08' 16.89''E 23° 24' 03.67''N 87° 08' 16.34''E	95 87 96 73.17 27.08 36.57 27.95 94
301 302 303 304 305 306 307 308	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 0.21''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 24.24''E 23° 24' 55.27''N 87° 08' 37.95''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251	364 365 366 367 368 369 370 371	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E 23° 24' 41.38''N 87° 09' 15.69''E 23° 24' 41.68''N 87° 09' 15.94''E 23° 24' 04.68''N 87° 08' 13.67''E 23° 24' 05.26''N 87° 08' 13.67''E 23° 24' 05.67''N 87° 08' 16.89''E 23° 24' 03.67''N 87° 08' 16.34''E 23° 24' 08.64''N 87° 08' 25.68''E	95 87 96 73.17 27.08 36.57 27.95 94 90.13
301 302 303 304 305 306 307 308 309	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 07.25''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 55.27''N 87° 08' 37.95''E 23° 24' 56.62N 87° 08' 36.20''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41	364 365 366 367 368 369 370 371 372	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E 23° 24' 41.38''N 87° 09' 15.69''E 23° 24' 41.68''N 87° 09' 15.94''E 23° 24' 04.68''N 87° 08' 13.67''E 23° 24' 05.26''N 87° 08' 13.67''E 23° 24' 05.67''N 87° 08' 16.89''E 23° 24' 03.67''N 87° 08' 16.34''E 23° 24' 08.64''N 87° 08' 25.68''E 23° 24' 11.68''N 87° 08' 25.67''E	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93
301 302 303 304 305 306 307 308	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 0.21''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 24.24''E 23° 24' 55.27''N 87° 08' 37.95''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251	364 365 366 367 368 369 370 371	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E 23° 24' 41.38''N 87° 09' 15.69''E 23° 24' 41.68''N 87° 09' 15.94''E 23° 24' 04.68''N 87° 08' 13.67''E 23° 24' 05.26''N 87° 08' 13.67''E 23° 24' 05.67''N 87° 08' 16.89''E 23° 24' 03.67''N 87° 08' 16.34''E 23° 24' 08.64''N 87° 08' 25.68''E	95 87 96 73.17 27.08 36.57 27.95 94 90.13
301 302 303 304 305 306 307 308 309	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 07.25''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 55.27''N 87° 08' 37.95''E 23° 24' 56.62N 87° 08' 36.20''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41	364 365 366 367 368 369 370 371 372	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E 23° 24' 41.38''N 87° 09' 15.69''E 23° 24' 41.68''N 87° 09' 15.94''E 23° 24' 04.68''N 87° 08' 13.67''E 23° 24' 05.26''N 87° 08' 13.67''E 23° 24' 05.67''N 87° 08' 16.89''E 23° 24' 03.67''N 87° 08' 16.34''E 23° 24' 08.64''N 87° 08' 25.68''E 23° 24' 11.68''N 87° 08' 25.67''E	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93
301 302 303 304 305 306 307 308 309 310 311	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 07.25''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 55.27''N 87° 08' 37.95''E 23° 24' 56.62N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 45.69''E 23° 24' 56.97''N 87° 08' 48.29''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89	364 365 366 367 368 369 370 371 372 373 374	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E 23° 24' 41.38''N 87° 09' 20.42''E 23° 24' 41.68''N 87° 09' 15.69''E 23° 24' 04.68''N 87° 08' 13.67''E 23° 24' 05.26''N 87° 08' 13.67''E 23° 24' 05.67''N 87° 08' 16.89''E 23° 24' 03.67''N 87° 08' 16.34''E 23° 24' 08.64''N 87° 08' 25.68''E 23° 24' 09.15''N 87° 08' 23.46''E 23° 24' 10.67''N 87° 08' 24.48''E	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86
301 302 303 304 305 306 307 308 309 310 311 312	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 07.25''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 55.27''N 87° 08' 37.95''E 23° 24' 56.62N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 45.69''E 23° 24' 56.97''N 87° 08' 48.29''E 23° 24' 57.58''N 87° 08' 45.81''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34	364 365 366 367 368 369 370 371 372 373 374	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E 23° 24' 41.38''N 87° 09' 20.42''E 23° 24' 41.68''N 87° 09' 15.69''E 23° 24' 04.68''N 87° 08' 13.67''E 23° 24' 05.26''N 87° 08' 13.67''E 23° 24' 05.67''N 87° 08' 16.89''E 23° 24' 05.67''N 87° 08' 16.34''E 23° 24' 08.64''N 87° 08' 25.68''E 23° 24' 09.15''N 87° 08' 23.46''E 23° 24' 10.67''N 87° 08' 23.46''E 23° 24' 11.68''N 87° 08' 23.46''E	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7
301 302 303 304 305 306 307 308 309 310 311 312 313	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 07.25''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 55.27''N 87° 08' 37.95''E 23° 24' 55.62N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 45.69''E 23° 24' 57.58''N 87° 08' 45.68''E 23° 24' 57.45''N 87° 08' 45.68''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34 63.81	364 365 366 367 368 369 370 371 372 373 374 375 376	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E 23° 24' 41.38''N 87° 09' 20.42''E 23° 24' 41.68''N 87° 09' 15.69''E 23° 24' 04.68''N 87° 08' 13.67''E 23° 24' 05.26''N 87° 08' 13.67''E 23° 24' 05.67''N 87° 08' 16.89''E 23° 24' 05.67''N 87° 08' 16.34''E 23° 24' 08.64''N 87° 08' 25.68''E 23° 24' 09.15''N 87° 08' 25.67''E 23° 24' 10.67''N 87° 08' 23.46''E 23° 24' 11.68''N 87° 08' 24.48''E 23° 24' 11.68''N 87° 08' 23.64''E 23° 24' 11.68''N 87° 08' 23.64''E	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7 51.01
301 302 303 304 305 306 307 308 309 310 311 312	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 07.25''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 55.27''N 87° 08' 37.95''E 23° 24' 56.62N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 45.69''E 23° 24' 56.97''N 87° 08' 48.29''E 23° 24' 57.58''N 87° 08' 45.81''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34	364 365 366 367 368 369 370 371 372 373 374	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E 23° 24' 41.38''N 87° 09' 20.42''E 23° 24' 41.68''N 87° 09' 15.69''E 23° 24' 04.68''N 87° 08' 13.67''E 23° 24' 05.26''N 87° 08' 13.67''E 23° 24' 05.67''N 87° 08' 16.89''E 23° 24' 05.67''N 87° 08' 16.34''E 23° 24' 08.64''N 87° 08' 25.68''E 23° 24' 09.15''N 87° 08' 23.46''E 23° 24' 10.67''N 87° 08' 23.46''E 23° 24' 11.68''N 87° 08' 23.46''E	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7
301 302 303 304 305 306 307 308 309 310 311 312 313 314	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 07.25''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 55.27''N 87° 08' 37.95''E 23° 24' 55.27''N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 45.69''E 23° 24' 57.58''N 87° 08' 45.68''E 23° 24' 57.45''N 87° 08' 45.68''E 23° 24' 56.89''N 87° 08' 52.16''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34 63.81 77.63	364 365 366 367 368 369 370 371 372 373 374 375 376 377	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E 23° 24' 41.38''N 87° 09' 20.42''E 23° 24' 41.68''N 87° 09' 15.69''E 23° 24' 04.68''N 87° 08' 13.67''E 23° 24' 05.26''N 87° 08' 13.67''E 23° 24' 05.67''N 87° 08' 13.67''E 23° 24' 05.67''N 87° 08' 16.34''E 23° 24' 08.64''N 87° 08' 25.68''E 23° 24' 09.15''N 87° 08' 25.67''E 23° 24' 10.67''N 87° 08' 23.46''E 23° 24' 11.68''N 87° 08' 24.48''E 23° 24' 11.68''N 87° 08' 23.46''E 23° 24' 12.67''N 87° 08' 21.89''E 23° 24' 12.26''N 87° 08' 21.65''E	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7 51.01 53.75
301 302 303 304 305 306 307 308 309 310 311 312 313 314 315	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 07.25''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 55.27''N 87° 08' 37.95''E 23° 24' 55.62N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 45.69''E 23° 24' 57.58''N 87° 08' 45.69''E 23° 24' 57.58''N 87° 08' 45.68''E 23° 24' 56.89''N 87° 08' 52.16''E 23° 24' 58.65''N 87° 08' 53.54''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34 63.81 77.63 79.27	364 365 366 367 368 369 370 371 372 373 374 375 376 377 378	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E 23° 24' 41.38''N 87° 09' 15.69''E 23° 24' 41.68''N 87° 09' 15.69''E 23° 24' 04.68''N 87° 08' 13.67''E 23° 24' 05.26''N 87° 08' 13.67''E 23° 24' 05.67''N 87° 08' 13.67''E 23° 24' 05.67''N 87° 08' 16.89''E 23° 24' 08.64''N 87° 08' 25.68''E 23° 24' 09.15''N 87° 08' 25.67''E 23° 24' 11.68''N 87° 08' 23.46''E 23° 24' 11.68''N 87° 08' 24.48''E 23° 24' 11.68''N 87° 08' 23.46''E 23° 24' 12.26''N 87° 08' 21.89''E 23° 24' 12.26''N 87° 08' 21.65''E 23° 24' 08.65''N 87° 08' 16.45''E	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7 51.01 53.75 43.21
301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 07.25''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.24''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 55.27''N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 45.69''E 23° 24' 57.58''N 87° 08' 45.68''E 23° 24' 57.45''N 87° 08' 45.68''E 23° 24' 56.89''N 87° 08' 45.68''E 23° 24' 56.89''N 87° 08' 52.16''E 23° 24' 58.65''N 87° 08' 53.54''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34 63.81 77.63 79.27 57.51	364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379	$\begin{array}{c} 23^{\circ} 24^{\circ} 24.67^{\circ} N 87^{\circ} 09^{\circ} 16.59^{\circ} E\\ 23^{\circ} 24^{\circ} 49.67^{\circ} N 87^{\circ} 09^{\circ} 20.42^{\circ} E\\ 23^{\circ} 24^{\circ} 41.38^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 41.68^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 04.68^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.26^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.67^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.67^{\circ} N 87^{\circ} 08^{\circ} 16.34^{\circ} E\\ 23^{\circ} 24^{\circ} 03.67^{\circ} N 87^{\circ} 08^{\circ} 25.68^{\circ} E\\ 23^{\circ} 24^{\circ} 01.67^{\circ} N 87^{\circ} 08^{\circ} 25.67^{\circ} E\\ 23^{\circ} 24^{\circ} 10.67^{\circ} N 87^{\circ} 08^{\circ} 23.64^{\circ} E\\ 23^{\circ} 24^{\circ} 10.67^{\circ} N 87^{\circ} 08^{\circ} 23.64^{\circ} E\\ 23^{\circ} 24^{\circ} 11.68^{\circ} N 87^{\circ} 08^{\circ} 21.89^{\circ} E\\ 23^{\circ} 24^{\circ} 12.26^{\circ} N 87^{\circ} 08^{\circ} 21.65^{\circ} E\\ 23^{\circ} 24^{\circ} 03.65^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 03.4^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 03.4^{\circ} N 87^{\circ} 08^{\circ} 18.85^{\circ} E\\ 33^{\circ} 24^{\circ} 03.4^{\circ} N 24^{\circ} 08^{\circ} 18.85^{\circ} E\\ 33^{\circ} 24^{\circ} 03.4^{\circ} 03^{\circ} 03^{\circ} 18.85^{\circ} E\\ 33^{\circ} 24^{\circ} 03^{\circ} 03^{\circ$	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7 51.01 53.75 43.21 44.02
301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 0.21''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 55.27''N 87° 08' 37.95''E 23° 24' 56.62N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 36.20''E 23° 24' 56.67N''N 87° 08' 45.69''E 23° 24' 55.51''N 87° 08' 45.69''E 23° 24' 57.58''N 87° 08' 45.68''E 23° 24' 56.89''N 87° 08' 52.16''E 23° 24' 59.64''N 87° 08' 53.54''E 23° 24' 59.64''N 87° 08' 47.59''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34 63.81 77.63 79.27 57.51 89	364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380	23° 24' 24.67''N 87° 09' 16.59''E 23° 24' 49.67''N 87° 09' 20.42''E 23° 24' 41.38''N 87° 09' 20.42''E 23° 24' 41.68''N 87° 09' 15.69''E 23° 24' 04.68''N 87° 08' 13.67''E 23° 24' 05.67''N 87° 08' 13.67''E 23° 24' 05.67''N 87° 08' 13.67''E 23° 24' 05.67''N 87° 08' 16.89''E 23° 24' 08.64''N 87° 08' 25.68''E 23° 24' 08.64''N 87° 08' 25.68''E 23° 24' 10.67''N 87° 08' 24.48''E 23° 24' 10.67''N 87° 08' 21.65''E 23° 24' 10.65''N 87° 08' 21.65''E 23° 24' 09.34''N 87° 08' 16.45''E 23° 24' 09.34''N 87° 08' 16.45''E 23° 24' 09.34''N 87° 08' 16.45''E 23° 24' 09.34''N 87° 08' 18.85''E 23° 24' 09.34''N 87° 08' 18.85''E	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7 51.01 53.75 43.21 44.02 44.24
301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 07.25''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.24''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 55.27''N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 45.69''E 23° 24' 57.58''N 87° 08' 45.68''E 23° 24' 57.45''N 87° 08' 45.68''E 23° 24' 56.89''N 87° 08' 45.68''E 23° 24' 56.89''N 87° 08' 52.16''E 23° 24' 58.65''N 87° 08' 53.54''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34 63.81 77.63 79.27 57.51	364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379	$\begin{array}{c} 23^{\circ} 24^{\circ} 24.67^{\circ} N 87^{\circ} 09^{\circ} 16.59^{\circ} E\\ 23^{\circ} 24^{\circ} 49.67^{\circ} N 87^{\circ} 09^{\circ} 20.42^{\circ} E\\ 23^{\circ} 24^{\circ} 41.38^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 41.68^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 04.68^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.26^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.67^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.67^{\circ} N 87^{\circ} 08^{\circ} 16.34^{\circ} E\\ 23^{\circ} 24^{\circ} 03.67^{\circ} N 87^{\circ} 08^{\circ} 25.68^{\circ} E\\ 23^{\circ} 24^{\circ} 01.67^{\circ} N 87^{\circ} 08^{\circ} 25.67^{\circ} E\\ 23^{\circ} 24^{\circ} 10.67^{\circ} N 87^{\circ} 08^{\circ} 23.64^{\circ} E\\ 23^{\circ} 24^{\circ} 10.67^{\circ} N 87^{\circ} 08^{\circ} 23.64^{\circ} E\\ 23^{\circ} 24^{\circ} 11.68^{\circ} N 87^{\circ} 08^{\circ} 21.89^{\circ} E\\ 23^{\circ} 24^{\circ} 12.26^{\circ} N 87^{\circ} 08^{\circ} 21.65^{\circ} E\\ 23^{\circ} 24^{\circ} 03.65^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 03.4^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 03.4^{\circ} N 87^{\circ} 08^{\circ} 18.85^{\circ} E\\ 33^{\circ} 24^{\circ} 03.4^{\circ} N 24^{\circ} 08^{\circ} 18.85^{\circ} E\\ 33^{\circ} 24^{\circ} 03.4^{\circ} 03^{\circ} 03^{\circ} 18.85^{\circ} E\\ 33^{\circ} 24^{\circ} 03^{\circ} 03^{\circ$	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7 51.01 53.75 43.21 44.02
301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 0.21''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 55.27''N 87° 08' 37.95''E 23° 24' 55.51''N 87° 08' 36.20''E 23° 24' 56.62N 87° 08' 36.20''E 23° 24' 56.51''N 87° 08' 45.69''E 23° 24' 55.51''N 87° 08' 45.69''E 23° 24' 57.58''N 87° 08' 45.68''E 23° 24' 56.89''N 87° 08' 52.16''E 23° 24' 59.64''N 87° 08' 53.54''E 23° 24' 59.64''N 87° 08' 47.59''E 23° 25' 05.68''N 87° 08' 52.64''E 23° 25' 01.67''N 87° 08' 52.27''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34 63.81 77.63 79.27 57.51 89 87.73	364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381	$\begin{array}{c} 23^{\circ}24^{\circ}24.67^{\circ}N87^{\circ}09^{\circ}16.59^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}49.67^{\circ}N87^{\circ}09^{\circ}20.42^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}41.38^{\circ}N87^{\circ}09^{\circ}15.69^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}41.68^{\circ}N87^{\circ}09^{\circ}15.69^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}04.68^{\circ}N87^{\circ}08^{\circ}13.67^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}05.26^{\circ}N87^{\circ}08^{\circ}13.67^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}05.67^{\circ}N87^{\circ}08^{\circ}16.89^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}03.67^{\circ}N87^{\circ}08^{\circ}25.68^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}03.67^{\circ}N87^{\circ}08^{\circ}25.68^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}01.67^{\circ}N87^{\circ}08^{\circ}23.46^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}11.68^{\circ}N87^{\circ}08^{\circ}21.89^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}12.26^{\circ}N87^{\circ}08^{\circ}21.89^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}24^{\circ}03.67^{\circ}N87^{\circ}08^{\circ}16.45^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}03.4^{\circ}N87^{\circ}08^{\circ}18.85^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}0.34^{\circ}N87^{\circ}08^{\circ}18.85^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}0.67^{\circ}N87^{\circ}08^{\circ}18.85^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}0.67^{\circ}N87^{\circ}08^{\circ}15.97^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}0.21^{\circ}N87^{\circ}08^{\circ}14.57^{\circ}\text{'E}\\ 23^{\circ}24^{\circ}0.21^{\circ}N87^{\circ}08^{\circ}14.$	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7 51.01 53.75 43.21 44.02 44.24 45.05
301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 0.21''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 36.29''E 23° 24' 58.24''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 55.27''N 87° 08' 37.95''E 23° 24' 56.62N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 36.20''E 23° 24' 56.62N 87° 08' 36.20''E 23° 24' 56.97''N 87° 08' 45.69''E 23° 24' 57.58''N 87° 08' 45.69''E 23° 24' 57.58''N 87° 08' 45.81''E 23° 24' 56.89''N 87° 08' 52.16''E 23° 24' 59.64''N 87° 08' 53.54''E 23° 24' 59.64''N 87° 08' 52.64''E 23° 25' 05.68''N 87° 08' 52.27''E 23° 25' 04.56''N 87° 08' 52.27''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34 63.81 77.63 79.27 57.51 89 87.73 85	364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382	$\begin{array}{c} 23^{\circ} 24^{\circ} 24.67^{\circ} N 87^{\circ} 09^{\circ} 16.59^{\circ} E\\ 23^{\circ} 24^{\circ} 49.67^{\circ} N 87^{\circ} 09^{\circ} 20.42^{\circ} E\\ 23^{\circ} 24^{\circ} 41.38^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 41.68^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 04.68^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.26^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.67^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.67^{\circ} N 87^{\circ} 08^{\circ} 16.39^{\circ} E\\ 23^{\circ} 24^{\circ} 03.67^{\circ} N 87^{\circ} 08^{\circ} 25.68^{\circ} E\\ 23^{\circ} 24^{\circ} 03.67^{\circ} N 87^{\circ} 08^{\circ} 25.68^{\circ} E\\ 23^{\circ} 24^{\circ} 01.68^{\circ} N 87^{\circ} 08^{\circ} 23.64^{\circ} E\\ 23^{\circ} 24^{\circ} 11.68^{\circ} N 87^{\circ} 08^{\circ} 21.65^{\circ} E\\ 23^{\circ} 24^{\circ} 12.26^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 03.65^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 03.4^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 03.4^{\circ} N 87^{\circ} 08^{\circ} 16.57^{\circ} E\\ 23^{\circ} 24^{\circ} 03.4^{\circ} N 87^{\circ} 08^{\circ} 16.57^{\circ} E\\ 23^{\circ} 24^{\circ} 03.4^{\circ} N 87^{\circ} 08^{\circ} 15.97^{\circ} E\\ 23^{\circ} 24^{\circ} 03.69^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 03^$	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7 51.01 53.75 43.21 44.02 44.24 45.05 36.24
301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 0.21''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 36.29''E 23° 24' 58.24''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 55.27''N 87° 08' 37.95''E 23° 24' 56.62N 87° 08' 36.20''E 23° 24' 56.62N 87° 08' 36.20''E 23° 24' 56.62N 87° 08' 36.20''E 23° 24' 56.51''N 87° 08' 45.69''E 23° 24' 57.58''N 87° 08' 45.69''E 23° 24' 57.58''N 87° 08' 45.81''E 23° 24' 56.89''N 87° 08' 53.54''E 23° 24' 58.65''N 87° 08' 53.54''E 23° 24' 59.64''N 87° 08' 52.27''E 23° 25' 05.68''N 87° 08' 52.27''E 23° 25' 04.56''N 87° 08' 52.27''E 23° 25' 04.56''N 87° 08' 55.94''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34 63.81 77.63 79.27 57.51 89 87.73 85 101.87	364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383	$\begin{array}{c} 23^{\circ} 24^{\circ} 24.67^{\circ} N 87^{\circ} 09^{\circ} 16.59^{\circ} E\\ 23^{\circ} 24^{\circ} 49.67^{\circ} N 87^{\circ} 09^{\circ} 20.42^{\circ} E\\ 23^{\circ} 24^{\circ} 41.38^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 41.68^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 04.68^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.26^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.26^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.67^{\circ} N 87^{\circ} 08^{\circ} 16.89^{\circ} E\\ 23^{\circ} 24^{\circ} 03.67^{\circ} N 87^{\circ} 08^{\circ} 25.68^{\circ} E\\ 23^{\circ} 24^{\circ} 03.67^{\circ} N 87^{\circ} 08^{\circ} 25.68^{\circ} E\\ 23^{\circ} 24^{\circ} 09.15^{\circ} N 87^{\circ} 08^{\circ} 23.46^{\circ} E\\ 23^{\circ} 24^{\circ} 10.67^{\circ} N 87^{\circ} 08^{\circ} 21.67^{\circ} E\\ 23^{\circ} 24^{\circ} 12.69^{\circ} N 87^{\circ} 08^{\circ} 21.65^{\circ} E\\ 23^{\circ} 24^{\circ} 02.64^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 02.64^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 02.64^{\circ} N 87^{\circ} 08^{\circ} 16.57^{\circ} E\\ 23^{\circ} 24^{\circ} 02.64^{\circ} N 87^{\circ} 08^{\circ} 16.57^{\circ} E\\ 23^{\circ} 24^{\circ} 02.1^{\circ} N 87^{\circ} 08^{\circ} 16.57^{\circ} E\\ 23^{\circ} 24^{\circ} 02.1^{\circ} N 87^{\circ} 08^{\circ} 14.57^{\circ} E\\ 23^{\circ} 24^{\circ} 02.1^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 02.1^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 03.69^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 03.69^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 13.64^{\circ} N 87^{\circ} 08^{\circ} 18.67^{\circ} E\\ 23^{\circ} 24^{\circ} 24^$	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7 51.01 53.75 43.21 44.02 44.24 45.05 36.24 60.345
301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 0.21''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 36.29''E 23° 24' 58.24''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 55.27''N 87° 08' 37.95''E 23° 24' 56.62N 87° 08' 36.20''E 23° 24' 55.51''N 87° 08' 36.20''E 23° 24' 56.62N 87° 08' 36.20''E 23° 24' 56.97''N 87° 08' 45.69''E 23° 24' 57.58''N 87° 08' 45.69''E 23° 24' 57.58''N 87° 08' 45.81''E 23° 24' 56.89''N 87° 08' 52.16''E 23° 24' 59.64''N 87° 08' 53.54''E 23° 24' 59.64''N 87° 08' 52.64''E 23° 25' 05.68''N 87° 08' 52.27''E 23° 25' 04.56''N 87° 08' 52.27''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34 63.81 77.63 79.27 57.51 89 87.73 85	364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382	$\begin{array}{c} 23^{\circ} 24^{\circ} 24.67^{\circ} N 87^{\circ} 09^{\circ} 16.59^{\circ} E\\ 23^{\circ} 24^{\circ} 49.67^{\circ} N 87^{\circ} 09^{\circ} 20.42^{\circ} E\\ 23^{\circ} 24^{\circ} 41.38^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 41.68^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 04.68^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.26^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.67^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.67^{\circ} N 87^{\circ} 08^{\circ} 16.39^{\circ} E\\ 23^{\circ} 24^{\circ} 03.67^{\circ} N 87^{\circ} 08^{\circ} 25.68^{\circ} E\\ 23^{\circ} 24^{\circ} 03.67^{\circ} N 87^{\circ} 08^{\circ} 25.68^{\circ} E\\ 23^{\circ} 24^{\circ} 01.68^{\circ} N 87^{\circ} 08^{\circ} 23.64^{\circ} E\\ 23^{\circ} 24^{\circ} 11.68^{\circ} N 87^{\circ} 08^{\circ} 21.65^{\circ} E\\ 23^{\circ} 24^{\circ} 12.26^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 03.65^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 03.4^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 03.4^{\circ} N 87^{\circ} 08^{\circ} 16.57^{\circ} E\\ 23^{\circ} 24^{\circ} 03.4^{\circ} N 87^{\circ} 08^{\circ} 16.57^{\circ} E\\ 23^{\circ} 24^{\circ} 03.4^{\circ} N 87^{\circ} 08^{\circ} 15.97^{\circ} E\\ 23^{\circ} 24^{\circ} 03.69^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 03^$	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7 51.01 53.75 43.21 44.02 44.24 45.05 36.24
301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320	23° 25' 05.27''N 87° 08' 29.52''E 23° 25' 07.25''N 87° 08' 28.24''E 23° 25' 0.21''N 87° 08' 36.22''E 23° 24' 59.32''N 87° 08' 36.29''E 23° 24' 58.36''N 87° 08' 36.29''E 23° 24' 58.24''N 87° 08' 39.62''E 23° 24' 58.24''N 87° 08' 39.24''E 23° 24' 55.27''N 87° 08' 37.95''E 23° 24' 56.62N 87° 08' 36.20''E 23° 24' 56.62N 87° 08' 36.20''E 23° 24' 56.62N 87° 08' 36.20''E 23° 24' 56.51''N 87° 08' 45.69''E 23° 24' 57.58''N 87° 08' 45.69''E 23° 24' 57.58''N 87° 08' 45.81''E 23° 24' 56.89''N 87° 08' 53.54''E 23° 24' 58.65''N 87° 08' 53.54''E 23° 24' 59.64''N 87° 08' 52.27''E 23° 25' 05.68''N 87° 08' 52.27''E 23° 25' 04.56''N 87° 08' 52.27''E 23° 25' 04.56''N 87° 08' 55.94''E	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34 63.81 77.63 79.27 57.51 89 87.73 85 101.87	364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383	$\begin{array}{c} 23^{\circ} 24^{\circ} 24.67^{\circ} N 87^{\circ} 09^{\circ} 16.59^{\circ} E\\ 23^{\circ} 24^{\circ} 49.67^{\circ} N 87^{\circ} 09^{\circ} 20.42^{\circ} E\\ 23^{\circ} 24^{\circ} 41.38^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 41.68^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 04.68^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.26^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.26^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.67^{\circ} N 87^{\circ} 08^{\circ} 16.89^{\circ} E\\ 23^{\circ} 24^{\circ} 03.67^{\circ} N 87^{\circ} 08^{\circ} 25.68^{\circ} E\\ 23^{\circ} 24^{\circ} 03.67^{\circ} N 87^{\circ} 08^{\circ} 25.68^{\circ} E\\ 23^{\circ} 24^{\circ} 09.15^{\circ} N 87^{\circ} 08^{\circ} 23.46^{\circ} E\\ 23^{\circ} 24^{\circ} 10.67^{\circ} N 87^{\circ} 08^{\circ} 21.67^{\circ} E\\ 23^{\circ} 24^{\circ} 12.69^{\circ} N 87^{\circ} 08^{\circ} 21.65^{\circ} E\\ 23^{\circ} 24^{\circ} 02.64^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 02.64^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 02.64^{\circ} N 87^{\circ} 08^{\circ} 16.57^{\circ} E\\ 23^{\circ} 24^{\circ} 02.64^{\circ} N 87^{\circ} 08^{\circ} 16.57^{\circ} E\\ 23^{\circ} 24^{\circ} 02.1^{\circ} N 87^{\circ} 08^{\circ} 16.57^{\circ} E\\ 23^{\circ} 24^{\circ} 02.1^{\circ} N 87^{\circ} 08^{\circ} 14.57^{\circ} E\\ 23^{\circ} 24^{\circ} 02.1^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 02.1^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 03.69^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 03.69^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 13.64^{\circ} N 87^{\circ} 08^{\circ} 18.67^{\circ} E\\ 23^{\circ} 24^{\circ} 24^$	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7 51.01 53.75 43.21 44.02 44.24 45.05 36.24 60.345
301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322	$\begin{array}{c} 23^{\circ} 25^{\circ} 05.27^{\circ} N 87^{\circ} 08^{\circ} 29.52^{\circ} E\\ 23^{\circ} 25^{\circ} 07.25^{\circ} N 87^{\circ} 08^{\circ} 36.22^{\circ} E\\ 23^{\circ} 25^{\circ} 0.21^{\circ} N 87^{\circ} 08^{\circ} 36.22^{\circ} E\\ 23^{\circ} 24^{\circ} 59.32^{\circ} N 87^{\circ} 08^{\circ} 36.29^{\circ} E\\ 23^{\circ} 24^{\circ} 58.36^{\circ} N 87^{\circ} 08^{\circ} 39.62^{\circ} E\\ 23^{\circ} 24^{\circ} 58.24^{\circ} N 87^{\circ} 08^{\circ} 39.24^{\circ} E\\ 23^{\circ} 24^{\circ} 58.24^{\circ} N 87^{\circ} 08^{\circ} 39.24^{\circ} E\\ 23^{\circ} 24^{\circ} 55.27^{\circ} N 87^{\circ} 08^{\circ} 37.95^{\circ} E\\ 23^{\circ} 24^{\circ} 55.27^{\circ} N 87^{\circ} 08^{\circ} 36.20^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 36.20^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 36.20^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 45.69^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 45.69^{\circ} E\\ 23^{\circ} 24^{\circ} 57.58^{\circ} N 87^{\circ} 08^{\circ} 45.68^{\circ} E\\ 23^{\circ} 24^{\circ} 57.45^{\circ} N 87^{\circ} 08^{\circ} 52.51^{\circ} E\\ 23^{\circ} 24^{\circ} 59.64^{\circ} N 87^{\circ} 08^{\circ} 52.54^{\circ} E\\ 23^{\circ} 25^{\circ} 0.56^{\circ} N 87^{\circ} 08^{\circ} 55.94^{\circ} E\\ 23^{\circ} 25^{\circ} 0.35^{\circ} N 87^{\circ} 09^{\circ} 04.35^{\circ} E\\ 23^{\circ} 25^{\circ} 0.9^{\circ} N 87^{\circ} 09^{\circ} 04.68^{\circ} E\\ 23^{\circ} 25^{\circ} 0.9^{\circ} N 87^{\circ$	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34 63.81 77.63 79.27 57.51 89 87.73 85 101.87 85 94.67	364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385	$\begin{array}{c} 23^{\circ} 24^{\circ} 24.67^{\circ} N 87^{\circ} 09^{\circ} 16.59^{\circ} E\\ 23^{\circ} 24^{\circ} 49.67^{\circ} N 87^{\circ} 09^{\circ} 20.42^{\circ} E\\ 23^{\circ} 24^{\circ} 41.38^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 41.68^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 04.68^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.26^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.67^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.67^{\circ} N 87^{\circ} 08^{\circ} 16.34^{\circ} E\\ 23^{\circ} 24^{\circ} 03.67^{\circ} N 87^{\circ} 08^{\circ} 25.68^{\circ} E\\ 23^{\circ} 24^{\circ} 03.67^{\circ} N 87^{\circ} 08^{\circ} 25.68^{\circ} E\\ 23^{\circ} 24^{\circ} 09.15^{\circ} N 87^{\circ} 08^{\circ} 25.67^{\circ} E\\ 23^{\circ} 24^{\circ} 09.15^{\circ} N 87^{\circ} 08^{\circ} 23.46^{\circ} E\\ 23^{\circ} 24^{\circ} 10.67^{\circ} N 87^{\circ} 08^{\circ} 21.65^{\circ} E\\ 23^{\circ} 24^{\circ} 12.26^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 09.34^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 09.34^{\circ} N 87^{\circ} 08^{\circ} 18.85^{\circ} E\\ 23^{\circ} 24^{\circ} 09.21^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 13.64^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 13.64^{\circ} N 87^{\circ} 08^{\circ} 19.49^{\circ} E\\ 23^{\circ} 24^{\circ} 15.49^{\circ} N 87^{\circ} 08^{\circ} 20.46^{\circ} E\\ \end{array}$	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7 51.01 53.75 43.21 44.02 44.24 45.05 36.24 60.345 63.875 63.575
301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323	$\begin{array}{c} 23^{\circ} 25^{\circ} 05.27^{\circ} N 87^{\circ} 08^{\circ} 29.52^{\circ} E\\ 23^{\circ} 25^{\circ} 07.25^{\circ} N 87^{\circ} 08^{\circ} 36.22^{\circ} E\\ 23^{\circ} 25^{\circ} 0.21^{\circ} N 87^{\circ} 08^{\circ} 36.22^{\circ} E\\ 23^{\circ} 24^{\circ} 59.32^{\circ} N 87^{\circ} 08^{\circ} 36.29^{\circ} E\\ 23^{\circ} 24^{\circ} 58.36^{\circ} N 87^{\circ} 08^{\circ} 39.62^{\circ} E\\ 23^{\circ} 24^{\circ} 58.24^{\circ} N 87^{\circ} 08^{\circ} 39.24^{\circ} E\\ 23^{\circ} 24^{\circ} 58.24^{\circ} N 87^{\circ} 08^{\circ} 39.24^{\circ} E\\ 23^{\circ} 24^{\circ} 55.27^{\circ} N 87^{\circ} 08^{\circ} 37.95^{\circ} E\\ 23^{\circ} 24^{\circ} 55.27^{\circ} N 87^{\circ} 08^{\circ} 36.20^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 36.20^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 36.20^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 45.69^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 45.69^{\circ} E\\ 23^{\circ} 24^{\circ} 55.57^{\circ} N 87^{\circ} 08^{\circ} 45.68^{\circ} E\\ 23^{\circ} 24^{\circ} 57.45^{\circ} N 87^{\circ} 08^{\circ} 52.16^{\circ} E\\ 23^{\circ} 24^{\circ} 59.64^{\circ} N 87^{\circ} 08^{\circ} 52.64^{\circ} E\\ 23^{\circ} 25^{\circ} 0.568^{\circ} N 87^{\circ} 08^{\circ} 52.64^{\circ} E\\ 23^{\circ} 25^{\circ} 0.568^{\circ} N 87^{\circ} 08^{\circ} 55.94^{\circ} E\\ 23^{\circ} 25^{\circ} 0.35^{\circ} N 87^{\circ} 09^{\circ} 04.35^{\circ} E\\ 23^{\circ} 25^{\circ} 0.55^{\circ} N 87^{\circ} 09^{\circ} 04.68^{\circ} E\\ 23^{\circ} 25^{\circ} 0.55^{\circ} N 87^{\circ} 09^{\circ} 06.34^{\circ} E\\ 23^{\circ} 2$	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34 63.81 77.63 79.27 57.51 89 87.73 85 101.87 85 94.67 95.22	364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386	$\begin{array}{c} 23^{\circ} 24^{\circ} 24.67^{\circ} N 87^{\circ} 09^{\circ} 16.59^{\circ} E\\ 23^{\circ} 24^{\circ} 49.67^{\circ} N 87^{\circ} 09^{\circ} 20.42^{\circ} E\\ 23^{\circ} 24^{\circ} 41.38^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 41.68^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 04.68^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.26^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.67^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.67^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 03.67^{\circ} N 87^{\circ} 08^{\circ} 25.68^{\circ} E\\ 23^{\circ} 24^{\circ} 03.67^{\circ} N 87^{\circ} 08^{\circ} 25.68^{\circ} E\\ 23^{\circ} 24^{\circ} 09.15^{\circ} N 87^{\circ} 08^{\circ} 25.67^{\circ} E\\ 23^{\circ} 24^{\circ} 09.15^{\circ} N 87^{\circ} 08^{\circ} 23.64^{\circ} E\\ 23^{\circ} 24^{\circ} 10.67^{\circ} N 87^{\circ} 08^{\circ} 21.65^{\circ} E\\ 23^{\circ} 24^{\circ} 10.67^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 10.67^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 09.34^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 09.21^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 13.64^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 13.64^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 13.64^{\circ} N 87^{\circ} 08^{\circ} 19.49^{\circ} E\\ 23^{\circ} 24^{\circ} 13.64^{\circ} N 87^{\circ} 08^{\circ} 19.49^{\circ} E\\ 23^{\circ} 24^{\circ} 13.64^{\circ} N 87^{\circ} 08^{\circ} 19.49^{\circ} E\\ 23^{\circ} 24^{\circ} 15.49^{\circ} N 87^{\circ} 08^{\circ} 20.46^{\circ} E\\ 23^{\circ} 24^{\circ} 15.98^{\circ} N 87^{\circ} 08^{\circ} 22.47^{\circ} E\\ 23^{\circ} 24^{$	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7 51.01 53.75 43.21 44.02 44.24 45.05 36.24 60.345 63.875 63.575 83.02
301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324	$\begin{array}{c} 23^{\circ} 25^{\circ} 05.27^{\circ} N 87^{\circ} 08^{\circ} 29.52^{\circ} E\\ 23^{\circ} 25^{\circ} 07.25^{\circ} N 87^{\circ} 08^{\circ} 36.22^{\circ} E\\ 23^{\circ} 25^{\circ} 0.21^{\circ} N 87^{\circ} 08^{\circ} 36.22^{\circ} E\\ 23^{\circ} 24^{\circ} 59.32^{\circ} N 87^{\circ} 08^{\circ} 36.29^{\circ} E\\ 23^{\circ} 24^{\circ} 58.36^{\circ} N 87^{\circ} 08^{\circ} 39.62^{\circ} E\\ 23^{\circ} 24^{\circ} 58.24^{\circ} N 87^{\circ} 08^{\circ} 39.24^{\circ} E\\ 23^{\circ} 24^{\circ} 58.24^{\circ} N 87^{\circ} 08^{\circ} 39.24^{\circ} E\\ 23^{\circ} 24^{\circ} 55.27^{\circ} N 87^{\circ} 08^{\circ} 37.95^{\circ} E\\ 23^{\circ} 24^{\circ} 55.27^{\circ} N 87^{\circ} 08^{\circ} 36.20^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 36.20^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 36.20^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 45.69^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 45.69^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 45.68^{\circ} E\\ 23^{\circ} 24^{\circ} 55.65^{\circ} N 87^{\circ} 08^{\circ} 52.64^{\circ} E\\ 23^{\circ} 24^{\circ} 59.64^{\circ} N 87^{\circ} 08^{\circ} 52.64^{\circ} E\\ 23^{\circ} 25^{\circ} 0.568^{\circ} N 87^{\circ} 08^{\circ} 55.94^{\circ} E\\ 23^{\circ} 25^{\circ} 0.35^{\circ} N 87^{\circ} 09^{\circ} 04.35^{\circ} E\\ 23^{\circ} 25^{\circ} 0.55^{\circ} N 87^{\circ} 09^{\circ} 04.35^{\circ} E\\ 23^{\circ} 25^{\circ} 0.55^{\circ} N 87^{\circ} 09^{\circ} 06.34^{\circ} E\\ 23^{\circ} 24^{\circ} 56.24^{\circ} N 87^{\circ} 09^{\circ} 05.28^{\circ} E\\ 23^{\circ} 24^{\circ} 56.24^{\circ} N 87^{\circ} 09^{\circ} 05.2$	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34 63.81 77.63 79.27 57.51 89 87.73 85 101.87 85 94.67 95.22 86	364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 380 381 382 383 384 385 386 387	$\begin{array}{c} 23^{\circ}24^{\circ}24.67^{\circ}N87^{\circ}09^{\circ}16.59^{\circ}E\\ 23^{\circ}24^{\prime}49.67^{\circ}N87^{\circ}09^{\circ}20.42^{\circ}E\\ 23^{\circ}24^{\prime}41.38^{\circ}N87^{\circ}09^{\circ}15.69^{\circ}E\\ 23^{\circ}24^{\prime}41.68^{\circ}N87^{\circ}09^{\circ}15.69^{\circ}E\\ 23^{\circ}24^{\prime}04.68^{\circ}N87^{\circ}08^{\circ}13.67^{\circ}E\\ 23^{\circ}24^{\prime}05.26^{\circ}N87^{\circ}08^{\circ}13.67^{\circ}E\\ 23^{\circ}24^{\prime}05.67^{\circ}N87^{\circ}08^{\circ}16.34^{\circ}E\\ 23^{\circ}24^{\prime}05.67^{\circ}N87^{\circ}08^{\circ}16.34^{\circ}E\\ 23^{\circ}24^{\prime}03.67^{\circ}N87^{\circ}08^{\circ}25.68^{\circ}E\\ 23^{\circ}24^{\prime}03.67^{\circ}N87^{\circ}08^{\circ}25.68^{\circ}E\\ 23^{\circ}24^{\prime}09.15^{\circ}N87^{\circ}08^{\circ}25.68^{\circ}E\\ 23^{\circ}24^{\prime}11.68^{\circ}N87^{\circ}08^{\circ}23.64^{\circ}E\\ 23^{\circ}24^{\prime}10.67^{\circ}N87^{\circ}08^{\circ}21.65^{\circ}E\\ 23^{\circ}24^{\prime}12.26^{\circ}N87^{\circ}08^{\circ}16.45^{\circ}E\\ 23^{\circ}24^{\prime}09.34^{\circ}N87^{\circ}08^{\circ}16.45^{\circ}E\\ 23^{\circ}24^{\prime}09.34^{\circ}N87^{\circ}08^{\circ}15.97^{\circ}E\\ 23^{\circ}24^{\prime}09.34^{\circ}N87^{\circ}08^{\circ}12.48^{\circ}E\\ 23^{\circ}24^{\prime}10.67^{\circ}N87^{\circ}08^{\circ}12.48^{\circ}E\\ 23^{\circ}24^{\prime}13.64^{\circ}N87^{\circ}08^{\circ}12.48^{\circ}E\\ 23^{\circ}24^{\prime}13.64^{\circ}N87^{\circ}08^{\circ}12.48^{\circ}E\\ 23^{\circ}24^{\prime}15.49^{\circ}N87^{\circ}08^{\circ}20.46^{\circ}E\\ 23^{\circ}24^{\prime}15.98^{\circ}N87^{\circ}08^{\circ}22.47^{\circ}E\\ 23^{\circ}24^{\prime}15.68^{\circ}N87^{\circ}08^{\circ}23.15^{\circ}E\\ 23^{\circ}24^{\prime}15.68^{\circ}N87^{\circ}08^{\circ}23.15^{\circ}E\\ 23^{\circ}24^{\prime}15.68^{\circ}N87^{\circ}08^{\circ}23.15^{\circ}E\\ 23^{\circ}24^{\prime}15.68^{\circ}N87^{\circ}08^{\circ}23.15^{\circ}E\\ 23^{\circ}24^{\prime}15.68^{\circ}N87^{\circ}08^{\circ}23.15^{\circ}E\\ 23^{\circ}24^{\prime}15.68^{\circ}N87^{\circ}08^{\circ}23.15^{\circ}E\\ 23^{\circ}24^{\circ}15.68^{\circ}N87^{\circ}08^{\circ}23.15^{\circ}E\\ 23^{\circ}24^{\circ}15.68^{\circ}N87^{\circ}08^{\circ}23.15$	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7 51.01 53.75 43.21 44.02 44.24 45.05 36.24 60.345 63.875 63.575 83.02 92.24
301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323	$\begin{array}{c} 23^{\circ} 25^{\circ} 05.27^{\circ} N 87^{\circ} 08^{\circ} 29.52^{\circ} E\\ 23^{\circ} 25^{\circ} 07.25^{\circ} N 87^{\circ} 08^{\circ} 36.22^{\circ} E\\ 23^{\circ} 25^{\circ} 0.21^{\circ} N 87^{\circ} 08^{\circ} 36.22^{\circ} E\\ 23^{\circ} 24^{\circ} 59.32^{\circ} N 87^{\circ} 08^{\circ} 36.29^{\circ} E\\ 23^{\circ} 24^{\circ} 58.36^{\circ} N 87^{\circ} 08^{\circ} 39.62^{\circ} E\\ 23^{\circ} 24^{\circ} 58.24^{\circ} N 87^{\circ} 08^{\circ} 39.24^{\circ} E\\ 23^{\circ} 24^{\circ} 58.24^{\circ} N 87^{\circ} 08^{\circ} 39.24^{\circ} E\\ 23^{\circ} 24^{\circ} 55.27^{\circ} N 87^{\circ} 08^{\circ} 37.95^{\circ} E\\ 23^{\circ} 24^{\circ} 55.27^{\circ} N 87^{\circ} 08^{\circ} 36.20^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 36.20^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 36.20^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 45.69^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 45.69^{\circ} E\\ 23^{\circ} 24^{\circ} 55.57^{\circ} N 87^{\circ} 08^{\circ} 45.68^{\circ} E\\ 23^{\circ} 24^{\circ} 57.45^{\circ} N 87^{\circ} 08^{\circ} 52.16^{\circ} E\\ 23^{\circ} 24^{\circ} 59.64^{\circ} N 87^{\circ} 08^{\circ} 52.64^{\circ} E\\ 23^{\circ} 25^{\circ} 0.568^{\circ} N 87^{\circ} 08^{\circ} 52.64^{\circ} E\\ 23^{\circ} 25^{\circ} 0.568^{\circ} N 87^{\circ} 08^{\circ} 55.94^{\circ} E\\ 23^{\circ} 25^{\circ} 0.35^{\circ} N 87^{\circ} 09^{\circ} 04.35^{\circ} E\\ 23^{\circ} 25^{\circ} 0.55^{\circ} N 87^{\circ} 09^{\circ} 04.68^{\circ} E\\ 23^{\circ} 25^{\circ} 0.55^{\circ} N 87^{\circ} 09^{\circ} 06.34^{\circ} E\\ 23^{\circ} 2$	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34 63.81 77.63 79.27 57.51 89 87.73 85 101.87 85 94.67 95.22	364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386	$\begin{array}{c} 23^{\circ} 24^{\circ} 24.67^{\circ} N 87^{\circ} 09^{\circ} 16.59^{\circ} E\\ 23^{\circ} 24^{\circ} 49.67^{\circ} N 87^{\circ} 09^{\circ} 20.42^{\circ} E\\ 23^{\circ} 24^{\circ} 41.38^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 41.68^{\circ} N 87^{\circ} 09^{\circ} 15.69^{\circ} E\\ 23^{\circ} 24^{\circ} 04.68^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.26^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.67^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 05.67^{\circ} N 87^{\circ} 08^{\circ} 13.67^{\circ} E\\ 23^{\circ} 24^{\circ} 03.67^{\circ} N 87^{\circ} 08^{\circ} 25.68^{\circ} E\\ 23^{\circ} 24^{\circ} 03.67^{\circ} N 87^{\circ} 08^{\circ} 25.68^{\circ} E\\ 23^{\circ} 24^{\circ} 09.15^{\circ} N 87^{\circ} 08^{\circ} 25.67^{\circ} E\\ 23^{\circ} 24^{\circ} 09.15^{\circ} N 87^{\circ} 08^{\circ} 23.64^{\circ} E\\ 23^{\circ} 24^{\circ} 10.67^{\circ} N 87^{\circ} 08^{\circ} 21.65^{\circ} E\\ 23^{\circ} 24^{\circ} 10.67^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 10.67^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 09.34^{\circ} N 87^{\circ} 08^{\circ} 16.45^{\circ} E\\ 23^{\circ} 24^{\circ} 09.21^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 13.64^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 13.64^{\circ} N 87^{\circ} 08^{\circ} 12.48^{\circ} E\\ 23^{\circ} 24^{\circ} 13.64^{\circ} N 87^{\circ} 08^{\circ} 19.49^{\circ} E\\ 23^{\circ} 24^{\circ} 13.64^{\circ} N 87^{\circ} 08^{\circ} 19.49^{\circ} E\\ 23^{\circ} 24^{\circ} 13.64^{\circ} N 87^{\circ} 08^{\circ} 19.49^{\circ} E\\ 23^{\circ} 24^{\circ} 15.49^{\circ} N 87^{\circ} 08^{\circ} 20.46^{\circ} E\\ 23^{\circ} 24^{\circ} 15.98^{\circ} N 87^{\circ} 08^{\circ} 22.47^{\circ} E\\ 23^{\circ} 24^{$	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7 51.01 53.75 43.21 44.02 44.24 45.05 36.24 60.345 63.875 63.575 83.02
301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324	$\begin{array}{c} 23^{\circ} 25^{\circ} 05.27^{\circ} N 87^{\circ} 08^{\circ} 29.52^{\circ} E\\ 23^{\circ} 25^{\circ} 07.25^{\circ} N 87^{\circ} 08^{\circ} 36.22^{\circ} E\\ 23^{\circ} 25^{\circ} 0.21^{\circ} N 87^{\circ} 08^{\circ} 36.22^{\circ} E\\ 23^{\circ} 24^{\circ} 59.32^{\circ} N 87^{\circ} 08^{\circ} 36.29^{\circ} E\\ 23^{\circ} 24^{\circ} 58.36^{\circ} N 87^{\circ} 08^{\circ} 39.62^{\circ} E\\ 23^{\circ} 24^{\circ} 58.24^{\circ} N 87^{\circ} 08^{\circ} 39.24^{\circ} E\\ 23^{\circ} 24^{\circ} 58.24^{\circ} N 87^{\circ} 08^{\circ} 39.24^{\circ} E\\ 23^{\circ} 24^{\circ} 55.27^{\circ} N 87^{\circ} 08^{\circ} 37.95^{\circ} E\\ 23^{\circ} 24^{\circ} 55.27^{\circ} N 87^{\circ} 08^{\circ} 36.20^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 36.20^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 36.20^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 45.69^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 45.69^{\circ} E\\ 23^{\circ} 24^{\circ} 55.51^{\circ} N 87^{\circ} 08^{\circ} 45.68^{\circ} E\\ 23^{\circ} 24^{\circ} 55.65^{\circ} N 87^{\circ} 08^{\circ} 52.64^{\circ} E\\ 23^{\circ} 24^{\circ} 59.64^{\circ} N 87^{\circ} 08^{\circ} 52.64^{\circ} E\\ 23^{\circ} 25^{\circ} 0.568^{\circ} N 87^{\circ} 08^{\circ} 55.94^{\circ} E\\ 23^{\circ} 25^{\circ} 0.35^{\circ} N 87^{\circ} 09^{\circ} 04.35^{\circ} E\\ 23^{\circ} 25^{\circ} 0.55^{\circ} N 87^{\circ} 09^{\circ} 04.35^{\circ} E\\ 23^{\circ} 25^{\circ} 0.55^{\circ} N 87^{\circ} 09^{\circ} 06.34^{\circ} E\\ 23^{\circ} 24^{\circ} 56.24^{\circ} N 87^{\circ} 09^{\circ} 05.28^{\circ} E\\ 23^{\circ} 24^{\circ} 56.24^{\circ} N 87^{\circ} 09^{\circ} 05.2$	47.07 75.658 61.56 83.94 62.46 74.847 69.74 95.251 109.41 79.29 73.89 67.34 63.81 77.63 79.27 57.51 89 87.73 85 101.87 85 94.67 95.22 86	364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 380 381 382 383 384 385 386 387	$\begin{array}{c} 23^{\circ}24^{\circ}24.67^{\circ}N87^{\circ}09^{\circ}16.59^{\circ}E\\ 23^{\circ}24^{\prime}49.67^{\circ}N87^{\circ}09^{\circ}20.42^{\circ}E\\ 23^{\circ}24^{\prime}41.38^{\circ}N87^{\circ}09^{\circ}15.69^{\circ}E\\ 23^{\circ}24^{\prime}41.68^{\circ}N87^{\circ}09^{\circ}15.69^{\circ}E\\ 23^{\circ}24^{\prime}04.68^{\circ}N87^{\circ}08^{\circ}13.67^{\circ}E\\ 23^{\circ}24^{\prime}05.26^{\circ}N87^{\circ}08^{\circ}13.67^{\circ}E\\ 23^{\circ}24^{\prime}05.67^{\circ}N87^{\circ}08^{\circ}16.34^{\circ}E\\ 23^{\circ}24^{\prime}05.67^{\circ}N87^{\circ}08^{\circ}16.34^{\circ}E\\ 23^{\circ}24^{\prime}03.67^{\circ}N87^{\circ}08^{\circ}25.68^{\circ}E\\ 23^{\circ}24^{\prime}03.67^{\circ}N87^{\circ}08^{\circ}25.68^{\circ}E\\ 23^{\circ}24^{\prime}09.15^{\circ}N87^{\circ}08^{\circ}25.68^{\circ}E\\ 23^{\circ}24^{\prime}11.68^{\circ}N87^{\circ}08^{\circ}23.64^{\circ}E\\ 23^{\circ}24^{\prime}10.67^{\circ}N87^{\circ}08^{\circ}21.65^{\circ}E\\ 23^{\circ}24^{\prime}12.26^{\circ}N87^{\circ}08^{\circ}16.45^{\circ}E\\ 23^{\circ}24^{\prime}09.34^{\circ}N87^{\circ}08^{\circ}16.45^{\circ}E\\ 23^{\circ}24^{\prime}09.34^{\circ}N87^{\circ}08^{\circ}15.97^{\circ}E\\ 23^{\circ}24^{\prime}09.34^{\circ}N87^{\circ}08^{\circ}12.48^{\circ}E\\ 23^{\circ}24^{\prime}10.67^{\circ}N87^{\circ}08^{\circ}12.48^{\circ}E\\ 23^{\circ}24^{\prime}13.64^{\circ}N87^{\circ}08^{\circ}12.48^{\circ}E\\ 23^{\circ}24^{\prime}13.64^{\circ}N87^{\circ}08^{\circ}12.48^{\circ}E\\ 23^{\circ}24^{\prime}15.49^{\circ}N87^{\circ}08^{\circ}20.46^{\circ}E\\ 23^{\circ}24^{\prime}15.98^{\circ}N87^{\circ}08^{\circ}22.47^{\circ}E\\ 23^{\circ}24^{\prime}15.68^{\circ}N87^{\circ}08^{\circ}23.15^{\circ}E\\ 23^{\circ}24^{\prime}15.68^{\circ}N87^{\circ}08^{\circ}23.15^{\circ}E\\ 23^{\circ}24^{\prime}15.68^{\circ}N87^{\circ}08^{\circ}23.15^{\circ}E\\ 23^{\circ}24^{\prime}15.68^{\circ}N87^{\circ}08^{\circ}23.15^{\circ}E\\ 23^{\circ}24^{\prime}15.68^{\circ}N87^{\circ}08^{\circ}23.15^{\circ}E\\ 23^{\circ}24^{\prime}15.68^{\circ}N87^{\circ}08^{\circ}23.15^{\circ}E\\ 23^{\circ}24^{\circ}15.68^{\circ}N87^{\circ}08^{\circ}23.15^{\circ}E\\ 23^{\circ}24^{\circ}15.68^{\circ}N87^{\circ}08^{\circ}23.15$	95 87 96 73.17 27.08 36.57 27.95 94 90.13 80.93 68.28 74.86 68.7 51.01 53.75 43.21 44.02 44.24 45.05 36.24 60.345 63.875 63.575 83.02 92.24

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GIS Based Assessmentand Evaluation of	f the Environmental Impa	icts of Opencast Coal Miningin
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327	23° 24' 45.67''N 87° 08' 16.69''E	55.066	390	23° 24' 17.36''N 87° 08' 15.79''E	77.25
327	23° 24' 44.38''N 87° 08' 11.49''E	55.449	390	23° 24' 17.30' N 87' 08' 13.79' E	78.27
328		50.449	391	23° 24' 18.69''N 87° 08' 17.64' E	74.21
	23° 24' 44.62''N 87° 08' 22.68''E		392 393		
330	23°24'31.67''N 87° 08' 321.69''E	77.16		23° 24' 21.49''N 87° 08' 16.98''E	76.18
331	23° 24' 43.62''N 87° 08' 24.65''E	88.877	394	23° 24' 21.48''N 87° 08' 16.85''E	98.76
332	23° 24' 43.68''N 87° 08' 25.49''E	74.515	395	23° 24' 20.18'N 87° 08' 12.89''E	97.33
333	23° 24' 43.67''N 87° 08' 28.64''E	72.071	396	23° 24' 21.49''N 87° 08' 08.79''E	102.1
334	23° 24' 43.89''N 87° 08' 28.49''E	39.72	397	23° 24' 21.64''N 87° 08' 06.52''E	101.69
335	23° 24' 43.67''N 87° 08' 32.64''E	71.398	398	23° 24' 17.59''N 87° 08' 07.65''E	58.54
336	23° 24' 35.46''N 87° 08' 35.37''E	39.82	399	23° 24' 16.98''N 87° 08' 03.49''E	37.45
337	23° 24' 42.37''N 87° 08' 34.69''E	78.62	400	23° 24' 15.98''N 87° 08' 05.41''E	34.35
338	23° 24' 44.61''N 87° 08' 37.89''E	32.72	401	23° 24' 24.65''N 87° 07' 58.49''E	48.15
339	23° 24' 46.56''N 87° 08' 38.45''E	42.757	402	23° 24' 22.19''N 87° 07' 59.64''E	48.41
340	23° 24' 46.39''N 87° 08' 37.64''E	48.905	403	23° 24' 26.49''N 87° 07' 58.78''E	55
341	23° 24' 44.26''N 87° 08' 39.64''E	34.36	404	23° 24' 24.05''N 87° 07' 56.49''E	93.54
342	23° 24' 45.69''N 87° 08' 46.59''E	42.21	405	23° 24' 22.69''N 87° 07' 56.42''E	91.95
343	23° 24' 45.26''N 87° 08' 46.26''E	41.94	406	23° 24' 20.95''N 87° 07' 55.28''E	92.25
344	23° 24' 49.67''N 87° 08' 59.62''E	94	407	23° 24' 19.45''N 87° 07' 54.08''E	92.99
345	23° 24' 49.45''N 87° 08' 56.27''E	93	408	23° 24' 21.35''N 87° 07' 54.62''E	114.65
346	23° 24' 48.58''N 87° 08' 58.24''E	95	409	23° 24' 21.69''N 87° 07' 54.04''E	114.7
347	23° 24' 42.36''N 87° 09' 26.08''E	89	410	23° 24' 20.16''N 87° 07' 51.96''E	118.38
348	23° 24' 43.64''N 87° 09' 27.64''E	87	411	23° 24' 22.45''N 87° 07' 51.68''E	136.96
349	23° 24' 40.36''N 87° 09' 29.52''E	89	412	23° 24' 19.67''N 87° 07' 51.68''E	116.56
350	23° 24' 39.68''N 87° 09' 29.89''E	90	413	23° 24' 22.65''N 87° 07' 52.16''E	136.57
351	23° 24' 41.65''N 87° 09' 26.95''E	90	414	23° 24' 24.27''N 87° 07' 55.68''E	108.75
352	23° 24' 41.67''N 87° 09' 25.95''E	91	415	23° 24' 26.48''N 87° 07' 54.58''E	107.65
353	23° 24' 38.68''N 87° 09' 28.94''E	91	416	23° 24' 27.58''N 87° 07' 53.67''E	107.07
354	23° 24' 39.67''N 87° 09' 27.94''E	91	417	23° 24' 29.68''N 87° 07' 57.96''E	63.5
355	23° 24' 40.24''N 87° 09' 27.95''E	90	418	23° 24' 28.54''N 87° 07' 51.63''E	98.48
356	23° 24' 41.58''N 87° 09' 28.67''E	89	419	23° 24' 04.36''N 87° 07' 38.96''E	-22.48
357	23° 24' 42.36''N 87° 09' 28.64''E	88	420	23° 24' 11.28''N 87° 07' 28.65''E	74.31
358	23° 24' 41.36''N 87° 09' 30.67''E	88	421	23° 24' 12.67''N 87° 07' 31.68''E	67.31
359	23° 24' 42.64''N 87° 09' 27.25''E	88	422	23° 24' 09.62''N 87° 07' 28.09''E	44.72
360	23° 24' 43.64''N 87° 09' 29.36''E	87	423	23° 24' 09.38''N 87° 07' 28.36''E	44.44
361	23° 24' 41.34''N 87° 09' 30.67''E	87	424	23° 24' 09.52''N 87° 07' 41.79''E	-11.91
425	23° 24' 23.49''N 87° 06' 54.04''E	149.38	435	23° 24' 13.48''N 87° 06' 54.04''E	177.78
426	23° 24' 57.63''N 87° 08' 42.19''E	78.22	436	23° 24' 16.18''N 87° 06' 53.48''E	143.32
427	23° 25' 01.49''N 87° 08' 19.46''E	115.1	437	23° 24' 15.49''N 87° 06' 56.18''E	177.82
428	23° 25' 03.46''N 87° 08' 23.49''E	89.38	438	23° 24' 16.20''N 87° 06' 57.36''E	178.37
429	23° 24' 23.49''N 87° 08' 01.45''E	102.96	439	23° 24' 17.24"N 87° 07' 59.43"E	164.44
430	23° 24' 21.69''N 87° 08' 04.12''E	0	440	23° 25' 06.36''N 87° 07' 16.39''E	96
431	23° 24' 20.12''N 87° 07' 59.45''E	52.86	441	23° 24' 56.34''N 87° 07' 16.38''E	96
432	23° 24' 21.69''N 87° 07' 58.59''E	52.86	442	23° 25' 04.63''N 87° 07' 28.16''E	96
433	23° 24' 13.45''N 87° 07' 32.18''E	29	444	23° 24' 59.34''N 87° 07' 36.75''E	108.5
434	23° 24' 33.28''N 87° 07' 08.29''E	167.41	445	23° 25' 01.63''N 87° 07' 36.04''E	110.39